ATGGCGGCTGCGCCGGCCTTGAAGCACTGGCGCACCACGCTGGAGCGGTGGAGAAGTTCGTGTCGCCGCTCTAC TTTACCGACTGTAACCTCCGCGGCAGGCTTTTTGGGGCCAGCTGCCCTGTGGCTGTCCTCCAGCTTCCTGACG CCGGAGAGACTTCCCTACCAGGAGGCAGTCCAGCGGGACTTCCGCCCCGCGCAGGTCGGCGACAGCTTCGGACCC TGGGAAAGTGATGGAGAAGGTCTGGTGTGGCGTGATGGAGAACCTGTCCAGGGTTTAACCAAAGAGGGTGAGAAG ACCAGCTATGTCCTGACTGACAGGCTGGGGGAAAGAGCCCCCGAAGCCTCACTCTATGTGGAAGTAGCCTGC AATGGGCTCCTGGGGGCCCGGGAAGGGAAGCATGATTGCAGCCCTGACCCTGAGAAGATGTTCCAGCTGAGCCGG GCTGAGCTAGCTGTTCCACCGGGATGTCCACATGCTCCTGGTGGATCTGGAGCTGCTGCTGGGCATAGCCAAG GGCCTCGGGAAGGACAACCAGCGCAGCTTCCAGGCCCTGTACACAGCCAATCAGATGGTGAACGTGTGTGACCCT GCCCAGCCCGAGACCTTCCCAGTGGCCCAGGCCCTGCCTCCAGGTTCTTTGGCCAACATGGGGGTGAAAGCCAA CACACCATTCATGCCACAGGGCACTGCCACATTGATACAGCCTGGCTTTGGCCCTTCAAAGAGACTGTGAGGAAA TGTGCCCGGAGCTGGGTGACCGCCCTGCAGCTCATGGAGCGGAACCCTGAGTTCATCTTTGCCTGCTCCCAGGCG CAGCAGCTGGAATGGGTGAAGAGCCGCTACCCTGGCCTGTACTCCCGCATCCAGGAGTTTGCGTGCCGTGGGCAG TTTGTGCCTGTGGGGGGCACCTGGGTGGAGATGGATGGGAACCTGCCCAGTGGAGAGGCCATGGTGAGGCAGTTT TTGCAGGGCCAGAACTTCTTTCTGCAGGAGTTTGGGAAGATGTGCTCTGAGTTCTGGCTGCCGGACACCTTTGGC TACTCAGCACAGCTCCCCCAGATCATGCACGGCTGTGGCATCAGGCGCTTTCTCACCCAGAAATTGAGCTGGAAT TTGGTGAACTCCTTCCCACACCATACATTTTTCTGGGAGGGCCTGGATGGCTCCCGTGTACTGGTCCACTTCCCA CCTGGCGACTCCTATGGGATGCAGGGCAGCGTGGAGGAGGTGCTGAAGACCGTGGCCAACAACCGGGACAAGGGG CTGAAGCGCCTGAGCAATACGGATGGGCTGCCCAGGGTGCAGCTATCTTCTCCAAGACAGCTCTTCTCAGCACTG GAGAGTGACTCAGAGCAGCTGTGCACGTGGGTTGGGGAGCTCTTCTTGGAGCTGCACAATGGCACATACACCACC CATGCCCAGATCAAGAAGGGGAACCGGGAATGTGAGCGGATCCTGCACGACGTGGAGCTGCTCAGTAGCCTGGCC CTGGCCGCAGTGCCCAGTTCCTATACCCAGCAGCCCAGCTGCAGCACCTCTGGAGGCTCCTTCTTCTGAACCAG TTCCATGATGTGGTGACTGGAAGCTGCATCCAGATGGTGGCAGAGGAAGCCATGTGCCATTATGAAGACATCCGT TCCCATGGCAATACACTGCTCAGCGCTGCAGCCGCAGCCCTGTGTGCTGGGGAGCCAGGTCCTGAGGGCCTCCTC CTGGTGACAGTGCCCAGCATGGGCTATGCTCCTGTTCCTCCCCCCACCTCACTGCAGCCCCTGCTGCCCCAGCAG CCTGTGTTCGTAGTGCAAGAGACTGATGGCTCCGTGACTCTGGACAATGGCATCATCCGAGTGAAGCTGGACCCA ACTGGTCGCCTGACGTCCTTGGTCCTGGTGGCCTCTGGCAGGGGGGCCCTTGCTGAGGGCGCCGTGGGGAACCAG TTTGTGCTATTTGATGATGTCCCCTTGTACTGGGATGCATGGGACGTCATGGACTACCACCTGGAGACACGGAAG CCTGTGCTGGGCCAGGCAGGGACCCTGGCAGTGGGCACCGAGGGCCGCCTGCGGGCAGCGCCTGGTTCTTGCTA CAGATCAGCCCCAACAGTCGGCTTAGCCAGGAGGTTGTGCTGGATGTTGGCTGCCCCTATGTCCGCTTCCACACC GAGGTACACTGGCATGAGGCCCACAAGTTCCTGAAGGTGGAGTTCCCTGCTCGCGTGCGGAGTTCCCAGGCCACC TATGAGATCCAGTTTGGGCACCTGCAGCGACCTACCACTACAATACCTCTTGGGACTGGGCTCGATTTGAGGTG TGGGCCCATCGCTGGATGGATCTGTCAGAACACGGCTTTGGGCTGGCCCTGCTCAACGACTGCAAGTATGGCGCG TCAGTGCGAGGCAGCATCCTCAGCCTCTCGCTCTTGCGGGCGCCTAAAGCCCCGGACGCTACTGCTGACACGGGG CGCCACGAGTTCACCTATGCACTGATGCCGCACAAGGGCTCTTTCCAGGATGCTGGCGTTATCCAAGCTGCCTAC AGCCTAAACTTCCCCCTGTTGGCTCTGCCAGCCCCAGCCCAGCCCGCCACCTCCTGGAGTGCGTTTTCCGTG CTGTATGAGGCCCACGGCAGCCACGTGGACTGCTGGCTGCACTTGTCGCTGCCGGTTCAGGAGGCCATCCTCTGC GATCTCTTGGAGCGACCAGACCCTGCTGGCCACTTGACCCTTCGGGACAACCGCCTGAAGCTCACCTTTTCTCCC GAAGGCTCTGGGGACTCCTAATTTCTGCTTCCCCAGCCTAAAGCAGGGATCAGTCTTTTCTTGTGGAATAAATCC TTGGATCGGG

MGVVAPPRPMLDRLKRLSNTDGLPRVQLSSPRQLFSALESDSEQLCTWVGELFLELHNGTYTTHAQIKKGNRECE RILHDVELLSSLALARSAQFLYPAAQLQHLWRLLLLNQFHDVVTGSCIQMVAEEAMCHYEDIRSHGNTLLSAAAA ALCAGEPGPEGLLIVNTLPWKRIEVMALPKPGGAHSLALVTVPSMGYAPVPPPTSLQPLLPQQPVFVVQETDGSV TLDNGIIRVKLDPTGRLTSLVLVASGREAIAEGAVGNQFVLFDDVPLYWDAWDVMDYHLETRKPVLGQAGTLAVG TEGGLRGSAWFLLQISPNSRLSQEVVLDVGCPYVRFHTEVHWHEAHKFLKVEFPARVRSSQATYEIQFGHLQRPT HYNTSWDWARFEVWAHRWMDLSEHGFGLALLNDCKYGASVRGSILSLSLLRAPKAPDATADTGRHEFTYALMPHK GSFQDAGVIQAAYSLNFPLLALPAPSPAPATSWSAFSVSSPAVVLETVKQAESSPQRRSLVLRLYEAHGSHVDCW LHLSLPVQEAILCDLLERPDPAGHLTLRDNRLKLTFSPFQVLSLLLVLQPPPH

CGCGAACAAACCCTTCTGACGGCCCTCGCTGTGCAGGCCAGGATGCCTCTCCCCCATCCGCCCCCCGCTGCGGAAA GTTAAGTTTGAAGAGGGGGAAGAGGGGAACATCGACATGAAGAGGAGGATCCACCTGGAGCTGAGGAACTGGAC CCCGTCAGCTGTTCGAGAACTTGTCTTGGACAATTGCAAATCAAATGATGGAAAAATTGAGGGCTTAACAGCTGA ATTTGTGAACTTAGAGTTCCTTAGTTTAATAAATGTAGGCTTGATCTCAGTTTCAAATCTTCCCAAGCTGCCTAA ATTGAAAAGCTTGAACTCAGTGAAAATAGAATCTTTGGAGGTCTGGACATGTTAGCTGAAAAGCTTCCAAATCT CACACGTCTAAACTTAAGTGGAAATAAACTGAAAGATATCAGCACCTTGGAAACCTTTGAAAAAGTTAGAATGTCT AGCTTACCTACATGGATGGCTATGACCAAGAGGACCAGGAGGAACCTGACTCAGATGCTGAGGTGGATGGTGTGG ATGAAGAGTAGGAGGGCGAAGAAGAAGACGAAGAAGACGAGGAGGATGAAGATGGTGAAGAAGAGAGTTTGATG AAGAAGATGATTAAGACCCCAGATGACCTGCAGAAACAGAACTGTTTAGTATCGGTTGGACTGCTCATGGATTTG ATAGTTCCTGTGACATTCCGTCTTCCTCCATGTAGTCCCTCTTGGTAATCTACCAATCTACCATCGAGCTTAGGG ACTTCACCCCAACAAATTGTAAGTGTTGTTAGGTTTTTGTGTGAGACTCTTGCTGTAGCGTAGATAGCTGTGAT TGGTGAGTCAACCATCTGTGGCTACCAGTTACACTGGGACTGTAACAGCATTTTTACTTTCTGTACAACAAAAAT CTTTGTAAATAAAATCTTAACATT

 ${\tt MDMKRRIHLELRNWTPSAVRELVLDNCKSNDGKIEGLTAEFVNLEFLSLINVGLISVSNLPKLPKLKKLELSENR} \\ {\tt IFGGLDMLAEKLPNLTRLNLSGNKLKDISTLEPLKKLECLKSLDLFNCEVTNMNDY} \\$

GGCGCCCTTACCCCTGCTGGCCCTTGCAAGGCGCGACCGGCGCCATGCAGCCCCGGGGCTGAGGCCGCCCCATG GCAAAGCCGGCGGTCCCGGCGACGACGGCGCATGGAGAACTTCCGTAAGGTGCGCTCCGAAGAGGCGCCAGCGGG CGTCTTCAGCGGCTGCGGCCGGGCCACCAAAACCGTCACGTGCGCCGAGATCCTCAAGCGCCGCCTGGCGGG CCTGCACCAGGTCACGGGCTGCGCTACCGGAGCGTACGCGAGGTGTGGCAGAGCCTCCCGCCTGGGCCCACGCA GGGTCAGACGCCTGGCGAGCCGGCCGCTAGTCTCAGCGTACTTAAGAACGTGCCCGGCCTCGCCATCCTACTTTC CAAGGACGCGCTGGATCCGCGACAGCCCGGCTACCAGCCCCCGAATCCCCATCCTGGTCCCTCGTCCCCGCCAGC CGCGCCAGCGTCCAAGAGGAGCCTAGGGGAACCCGCAGCTGGAGAAGGCTCCGCGAAGCGATCGCAACCCGAGCC AGGGGTTGCGGACGAGGATCAGACGGCCTGAAACTCCGGACTGTGGGCCACCTAGTCCGGCAGGATCTTCCGCCA GCGCCTCCACCTTCAGATGTACCTCCAGCCTTTCACTCCTCGGTCCTCCGGAGCCCACAACCTGGACACAGCTCC TCAAGACAGGTAGCATGGACCTTAAGGCGACAAGAGAGGGGCCCCAGGAGTGGCAGGAGAGGATCCCCGACCACC CTAGGGAAACTTCGTGCGATAATTGCTGCTTATGCCCGTGTTGCGTGAAGACACGGAACTTCACCTTTTCTGGGA CCTTCTTTGGGGGAGAATGGTGGACAGTGGGATTCTGGAAACTTGTTTGGGACCCCCAAGGGTTAAAGCCACCCA GCATTCACGAAGAGCACCTGAAGTATGGAAGCTGAGAAGAGTTATTGGAATCACCCCCACCGTTGACAGAGGAAG GCAGGGGTGAGAATTAACTGCTTGAGGGTAGGAGAGTCTGAGATGTGGGGGCCCTATTCCGCTCCCCGCCCTGG GACAGTTTTCCTTTCTAGTTTTCTTTCCCCTGCTTCAGAGGAGCATCTCTGAGGGTTCTAGCTCTTTTAACACCC CTTTTCCCCCTGCTGCCCAGAGGGAGACCCAGGACTGAACTCTCCAGGCCTCCCCTGAGCCCTGCAGCTGG CTGGAGTCTTGCTTCCAATAAAACAAGCACA

4617/6881 FIGURE 4257A

GGCAGCTAGGAGGGTTGCTCCGGGCTTGGTGCTCACTGCGACTTCCCGCGCAGGGCCCGGTCGGACTAGGACCCG CGGCCTGAGAGACGCTGGAGGATGCGGACGCGGAGGCCGCCTGGGGTAGCGGCGGGGGGAGTCCTGGCGCTCTGC AGGTCAGAAGTTGAGTAGCAGGGGCCTAGGAGGGCTCGAAGCCTTCACAGCGATGGCAGAAGAAGCGACCCCTGAG CTCTGTTGGTAACCAGGATCCCTGCACCTACAAGGGGTCCTACTTCTCCTGCCCCATGGCAGGTACTCCTAAGGC GGCAGACAACCTGCTGACCAACTGCCTGTTCTACCGCTCGCCAGCAGAAGGCCCTGAGAAGATGCAGGACTCCAG CCCTGTTGAGCTCCTGCCCTTCAGTCCCCAGGCTCACTCCTACCCAGGCCCACCACTGGCAGCACCCAAACCTGT CTACCGCAACCCTCTGTGCTATGGGCTCTCAACTTGTCTGGGGGAAGGAGCAGTGAAGAGGCCACTGGATGTTGA CCAGACTCTGGATGGCACCTTCTTGCGGGGGGTGCCAGCTGAGGGGTCCAGTAAAGACTCCTCAGGGAGCTTCTC CCCATGCCAGCCCTTCCTGGAGAAATATCAGACCATCCACAGCACGGGCTTCCTGGCCTCCAGGTACACAGGTCC TTACCCTAGGAACTCCAAGCAATGTCTGAGGGGCCCTCAAGTCCTTGGACCCAGCTGGCCCAGCCCCTGGG GCCTTGCCCTCCAGCCTGTCGCCACCCAGAGAAGCAGGGCAGCTACAGCCCAGCACTCCCACTGCAGCCTCTGGG TTACATTCCCCCACTGGGGCTGGACGCTTACCCCTACCCCTCTGCCCCTCTCCCAGCACCCTCTCCAGGCCTCAA GCTGGAGCCGCCTCTCACTCCACGGTGCCCATTGGACTTTGCCCCCCAGACACTGAGTTTTCCTTATGCCCGGGA TGACCTCTCTCTATGGAGCATCCCCTGGGCTTGGAGGGACACCACCTTCCCAGAACAATGTGCGGGCTGTGCC ACAGCCTGGTGCCTTCCAGAGGGCATGCCAGCCTTTGCCAGCGGGCCAGCCCTGCTCAGAGCCTGTGAGGCCTGC ACAGGAAGCCGAAGAGAAGACCTGGCTGCCCAGCTGCAGGAAAGAGAAGCTCCAGCCCCGGCTCAGTGAGCACTC TGGGCCGCCCATCGTCATCCGAGACAGTCCAGTTCCCTGTACCCCCCCAGCACTGCCCCCTGTGCCCGGGAGTG CCAGTCTCTTCCACAGAAGGAGGGCGCAAGGCCACCCAGCTCTCCACCAATGCCTGTCATTGACAATGTCTTCAG CCTGGCCCCTACCGTGACTATCTGGATGTGCCGGCACCCGAGGCCACAACTGAGCCTGACTCTGCCACAGCTGA CTCAGGGAGTAAACCCCTAAGGGGCTCACTTAAGGAGGAGGTAGCCCTGGATTTGAGTGTGAGGAAGCCCACAGC AGAGGCCTCCCTGTCAAGGCTTCCCGTTCTGTGGAGCATGCCAAGCCTACTGCAGCCATGGATGTGCCAGATGT GGGCAACATGGTGTCAGATCTGCCAGGCCTGAAAAAGATAGACACAGAAGCACCAGGCTTGCCTGGGGTGCCAGT GACCACAGATGCCATGCCAAGGACCAACTTCCACAGCTCTGTGGCCTTCATGTTCCGAAAGTTCAAGATCCTCCG CCCCACATCTGGGCCCATTGGACTGCGGATTCTCGCTCAACAGCCCTTGTCTGTGACCTGCTTCAGCCTGGCACT GCCCAGCCCTCCAGCCGTAGCTGTGGCCTCCCCTGCCCCTGCTCCAGCTCCATCCCCTGCTCCGGCTCGAGCTCA GGCTCCAGCTTCAGCCCGGGATCCAGCTCCAGCTCCAGTTGCAGGCCCTGCTCCAGCATCTACTTCAGC CCCAGGGGACTCCCTGGAGCAGCATTTTACAGGACTACATGCGTCCCTGTGTGATGCTATTTCTGGCTCCGTCGC CCACTCTCCTCCAGAGAGCTTCGCGAGTGGCTAGAGACGCTGGGCCCTGGGGCCAGGCTGCGGGCAGGACTG CCCCCATGTGGTGCGAGCTGGCGCCATCTTCGTGCCCATTCACCTGGTGAAGGAGCGGCTCTTCCCTCGGCTGCC ACCCGCTTCTGTGGACCATGTGCTGCAGGAGCATCGTGTGGAGCTGCCGCCCACCACGCTGTCGGAGGAGCGGGC ACTGCGGGAGCTCGCCCTGCCAGGCTGCACCTCACGCATGCTGAAGTTACTGGCGCTGCGCCAGCTGCCGGACAT TTACCCCGACCTTCTCGGCCTGCAGTGGCGCGACTGTGTACGCCGCCAGCTGGGTGACTTTGACACTGAGGCTGG AGCTGTGTCCTCCTCAGAGCCCACTGTGGCCAGAGGTGAGCCAGAGAGCCTAGCCCTGGCTCAGAAGTCACCGGC CCCCAAGGTCAGGAAGCCAGGAAGCCACCAACCCCTGGCCGGAGAAAGCAGAGGCAGCTGCTGGGGAAGA GTCCTGTGGTGCCTCCCCTACCCCTGCTACCAGTGCCAGCCCACCTGGCCCACACTGAAGGCCCGCTTCCGCAG TCTGCTGGAGACCGCCTGGCTCAATGGCCTGGCTCTGCCCACCTGGGGCCACAAGTCCTCAAGACCAGACCAGCC CTCACCCTGCCCACAGCTGCTGGACAGCCAGAGCCATCACCTGTAGCACTGGTTGCCAGTGCTGTGTATAGCA GTCACTCTCCACCCTTCCCTTCTGCCTGCCCAGCTGCCCCGGGGCCACGAGTGGATGCTGGGGCTGTGGCTGCTC CCCTGGAGGGTTCCATCTCTGACCCTGTGGCCCATTCAGGGTGGGCTGAAGAGCCCCTGAGCTTTTAACGTGAG GGTCTTTATTGGATAGGACTACTCCCTATTTCTTGCCTAGAGAACACATGGGCTTTGGAGCCCGACAGACCTG

FIGURE 4257B

MDVPDVGNMVSDLPGLKKIDTEAPGLPGVPVTTDAMPRTNFHSSVAFMFRKFKILRPAPLPAAVVPSTPTSAPAP TQPAPTPTSGPIGLRILAQQPLSVTCFSLALPSPPAVAVASPAPAPAPSPAPARAQAPASARDPAPAPAPVAGPA PASTSAPGDSLEQHFTGLHASLCDAISGSVAHSPPEKLREWLETAGPWGQAAWQDCQGVQGLLAKLLSQLQRFDR THRCPFPHVVRAGAIFVPIHLVKERLFPRLPPASVDHVLQEHRVELRPTTLSEERALRELALPGCTSRMLKLLAL RQLPDIYPDLLGLQWRDCVRRQLGDFDTEAGAVSSSEPTVARGEPESLALAQKSPAPKVRKPGRKPPTPGPEKAE AAAGEESCGASPTPATSASPPGPTLKARFRSLLETAWLNGLALPTWGHKSSRPDQPSPCPQLLDSQSHHL

GTCCTCCCGCGGGTCCGAGGGCGCTGGAAACCCAGCGGCGGCGAAGCGGAGAGGAGCCCCGCGCGTCTCCGCCCG GACCGTCCGGGTCCGCCGGCCAGCCAGCCATGGGCTCTGGCCGCTCTCGCTGCCCCTGGCGCTGTCG CCGCCGCGCTGCTGCTGCTGCTGTCTCTCTGCTGCCAGTGGCCAGGGCCTCAGAGGCTGAGCACCGTCTA TTTGAGCGGCTGTTTGAAGATTACAATGAGATCATCCGGCCTGTAGCCAACGTGTCTGACCCAGTCATCATCCAT TTCGAGGTGTCCATGTCTCAGCTGGTGAAGGTGAAGTAAACCAGATCATGGAGACCAACCTGTGGCTCAAG CAAATCTGGAATGACTACAAGCTGAAGTGGAACCCCTCTGACTATGGTGGGGCAGAGTTCATGCGTGTCCCTGCA CAGAAGATCTGGAAGCCAGACATTGTGCTGTATAACAATGCTGTTGGGGATTTCCAGGTGGACGACAAGACCAAA GCCTTACTCAAGTACACTGGGGAGGTGACTTGGATACCTCCGGCCATCTTTAAGAGCTCCTGTAAAATCGACGTG ACCTACTTCCCGTTTGATTACCAAAACTGTACCATGAAGTTCGGTTCCTGGTCCTACGATAAGGCGAAAATCGAT CTGGTCCTGATCGGCTCTTCCATGAACCTCAAGGACTATTGGGAGAGCGGCGAGTGGGCCATCATCAAAGCCCCA GGCTACAAACACGACATCAAGTACAACTGCTGCGAGGAGATCTACCCCGACATCACATACTCGCTGTACATCCGG TACCTGCCTCCGACTGCGGTGAGAAGGTGACCCTGTGCATTTCTGTCCTCCTCTCCCTGACGGTGTTTCTCCTG GTGATCACTGAGACCATCCCTTCCACCTCGCTGGTCATCCCCCTGATTGGAGAGTACCTCCTGTTCACCATGATT CCCTCATGGGTGAAGACTGTATTCTTGAACCTGCTCCCCAGGGTCATGTTCATGACCAGGCCAACAAGCAACGAG GGCAACGCTCAGAAGCCGAGGCCCCTCTACGGTGCCGAGCTCTCAAATCTGAATTGCTTCAGCCGCGCAGAGTCC AAAGGCTGCAAGGAGGGCTACCCCTGCCAGGACGGGATGTGTGTTACTGCCACCACCGCAGGATAAAAATCTCC CCAGAAATCAAAGAAGCCATCCAAAGTGTCAAGTATATTGCTGAAAATATGAAAGCACAAAATGAAGCCAAAAGAG ATTCAAGATGATTGGAAGTATGTTGCCATGGTGATTGATCGTATTTTTCTGTGGGTTTTCACCCTGGTGTGCATT TGGGAGACTTCCTTGTGTCAGGGCAGGAGGAGGCTGCTTCCTAGTAAGAACGTACTTTCTGTTATCAAGCTACCA GTATTTATTACCGATAAATGAACATTTAACTAGCCTTTTTGGTATGGTAAAGAGATGTCAAAATGTGATTCTATG TGATTAGTATGCTATGGAATATACATGTAAAAATGTTTCCTTTTAGTTGTTGAAACAAAACTGGATAGAA AAATGCTGTTCAGAAATATGAAAAGTCATTCAGTTATCACTACAGATCTCCCAGTAATTTTTCTTATTTAGCCCA TAATCTCTTTGAAGGTTTATACTAATTCAGCAATCCCCCATCGTTACCCATTTCTTACCATGCATTTCTCGTTCT TTACTGGGTCTAAAGGGCTATGCCTCCATTTCAGAGAGCTTCAACTTCTCTTCTTGCATACTTCTAAATTATACT ATGAGAAATCATGCCTAGTTATTCATTGTTAATATAACTGTCTTAGTACACCATAAACTGGGTGGATTATAAACA ACAGAAACTTCTCAGTTTTGGAGGTTGGGAGGTCCAAGGTCAAGGCACCAGCAAATTTGGTGTCTGGTGAGGGTC CTCTTCCTCAAAGGGTGCCTTCTAGCTGTGTCCTCACATGACTGAAGGGACTAGCTATCTCTGTGGGGTCTATTT TATAAGGGCACTAACCCCATTCATGAGAGCAGAGCCCCCATGGCCTAATCACCTTTCCAAGGCCCCACCTTCTAT CTAAGACAATCACGCTGGGAATAGGTTTCAACATATGAATTGGGGGAGGACACATTTGGACCACAGCATGAACCT TTAGAACAGGGTTTCTCAGCCTTAGCACTACGGACATTTTGGGCTGGATAAATATGTGTTGGTACAGAATGGGGG TATCCTGTGCATTGTAGGATCTTTAGCAGTACCCTAGCCTCAACTCACTAGATGCCAATGACATACCTTGCTTCT TCACCAGTTATGATAACCAAGAATGTCTCCATTGTTAAATGTCCCCTTAGGAGCAAAATTGCCCCTGGTTGAGAA ACATTGCTTTAGACAAATTGTTAAGAGTATCATGTACTACACTTCTGAAACTTAACGTGATCATCACCACTGACA GATGATTCACAGAGAGAGACTGTTTGAATCTTGTCTCACTAGTTTTTCCTGTGCAAAAATAAAATGGACAGAATT GCAAAAAAAAAAAAAAA

MGSGPLSLPLALSPPRLLLLLLLSLLPVARASEAEHRLFERLFEDYNEIIRPVANVSDPVIIHFEVSMSQLVKVD EVNQIMETNLWLKQIWNDYKLKWNPSDYGGAEFMRVPAQKIWKPDIVLYNNAVGDFQVDDKTKALLKYTGEVTWI PPAIFKSSCKIDVTYFPFDYQNCTMKFGSWSYDKAKIDLVLIGSSMNLKDYWESGEWAIIKAPGYKHDIKYNCCE EIYPDITYSLYIRRLPLFYTINLIIPCLLISFLTVLVFYLPSDCGEKVTLCISVLLSLTVFLLVITETIPSTSLV IPLIGEYLLFTMIFVTLSIVITVFVLNVHYRTPTTHTMPSWVKTVFLNLLPRVMFMTRPTSNEGNAQKPRPLYGA ELSNLNCFSRAESKGCKEGYPCQDGMCGYCHHRRIKISNFSANLTRSSSSESVDAVLSLSALSPEIKEAIQSVKY IAENMKAQNEAKEIQDDWKYVAMVIDRIFLWVFTLVCILGTAGLFLQPLMAREDA

 $\tt CTCCGTGGACATCTCAGGTCTTCAGGGTCTTCCATCTGGAACTATATAAAGTTCAGAAAAC\underline{ATG} \texttt{TCTCGAAGATA}$ TGACTCCAGGACCACTATATTTTCTCCAGAAGGTCGCTTATACCAAGTTGAATATGCCATGGAAGCTATTGGACA ACCTTGTGAGCAGTTGGTTACAGCGCTGTGTGATATCAAACAAGCTTATACACAATTTGGAGGAAAACGTCCCTT TGGTGTTTCATTGCTGTACATTGGCTGGGATAAGCACTATGGCTTTCAGCTCTATCAGAGTGACCCTAGTGGAAA TTACGGGGGATGGAAGGCCACATGCATTGGAAATAATAGCGCTGCAGCTGTCAATGTTGAAACAAGACTATAA AGAAGGAGAAATGACCTTGAAGTCAGCACTTGCTTTAGCTATCAAAGTACTAAATAAGACCATGGATGTTAGTAA ${\tt ACAGAAGAAAAGGATAAA}$ ${\tt TAG}$ ${\tt ATCAGAGATTTTATTACTCATTTGGGGCACCATTTCAGTGTAAAAGCAGTCC}$ TACTCTTCCACACTAGGAAGGCTTTACTTTTTTTAACTGGTGCAGTGGGAAAATAGGACATTACATACTGAATTG GGTCCTTGTCATTTCTGTCCAATTGAATACTTTATTGTAACGATGATGGTTACCCTTCATGGACGTCTTAATCTT

MSRRYDSRTTIFSPEGRLYQVEYAMEAIGHAGTCLGILANDGVLLAAERRNIHKLLDEVFFSEKIYKLNEDMACS VAGITSDANVLTNELRLIAQRYLLQYQEPIPCEQLVTALCDIKQAYTQFGGKRPFGVSLLYIGWDKHYGFQLYQS DPSGNYGGWKATCIGNNSAAAVSMLKQDYKEGEMTLKSALALAIKVLNKTMDVSKLSAEKVEIATLTRENGKTVI RVLKOKEVEQLIKKHEEEEAKAEREKKEKEQKEKDK

ATGCTTAACCCCACTGTGTTTTTTTGACATCGCCGTCGATGGCGAGCCCTTGGGCCACGTCTCCTTCGAGCTGCTT
GCAGACAAGTTTCCAAAGACAGCAGAAAACTTTCATGCTCTGAGCACTGGAGAAAAGGATTTGAATTATCAGAG
TTTATGTGTCAGGGTGGTGACTTCACATGCCATAATGGCACTGGTGGCAAGTCCATCTATGGGGAGAAATTTGAT
GATGAGAACTTCATCCTAAAGCATACAGTGGTGGATGGCAAGCATGTGGTCTTTGGCAAGGTGAAAGAAGGCATG
AATATTGTGGAGGCCACGGAGCGCTTTGAGTCCAGGAATGGCAAGACCAGGAAGAAGAACACTCTTAA

 ${\tt MVNPTVFFDIAVDGEPLGHVSFELLADKFPKTAENFHALSTGEKGFELSEFMCQGGDFTCHNGTGGKSIYGEKFD} \\ {\tt DENFILKHTVVDGKHVVFGKVKEGMNIVEATERFESRNGKTRKKITIADCGQL}$

AGTGCGCCGGCCGGCCAACCCTATGCTGGCGTAATCGGGTTCCTCCGAGCCGCCGTAGGACTGGTTCCGGCGG GCTGGTGAGGAATGGAGCCGGTAGGCTGCTGCGGCGAGTGCCGCGGCTCCTCCGTAGACCCGCGGAGCACCTTCG TGTTGAGTAACCTGGCGGAGGTGGTGGAGCGTGTGCTCACCTTCCTGCCCGCCAAGGCGTTGCTGCGGGTGGCCT GCGTGTGCCGCTTATGGAGGGAGTGTGTGCGCAGAGTATTGCGGACCCATCGGAGCGTAACCTGGATCTCCGCAG GCCTGGCGGAGGCCGCCACCTGGAGGGGCATTGCTTGGTTCGCGTGGTAGCAGAGGAGCTTGAGAATGTTCGCA TCTTACCACATACAGTTCTTTACATGGCTGATTCAGAAACTTTCATTAGTCTGGAAGAGTGTCGTGGCCATAAGA GAGCAAGGAAAAGAACTAGTATGGAAACAGCACTTGCCCTTGAGAAGCTATTCCCCAAACAATGCCAAGTCCTTG GGATTGTGACCCCAGGAATTGTAGTGACTCCAATGGGATCAGGTAGCAATCGACCTCAGGAAATAGAAATTGGAG AATCTGGTTTTGCTTTATTATTCCCTCAAATTGAAGGAATAAAAATACAACCCTTTCATTTTATTAAGGATCCAA AGAATTTAACATTAGAAAGACATCAACTCACTGAAGTAGGTCTTTTAGATAACCCTGAACTTCGTGTGGTCCTTG TCTTTGGTTATAATTGCTGTAAGGTGGGAGCCAGTAATTATCTGCAGCAAGTAGTCAGCACTTTCAGTGATATGA ATATCATCTTGGCTGGAGGCCAGGTGGACAACCTGTCATCACTGACTTCTGAAAAGTATGTCTTGTGTGCTTCTG ATTTCGTCTGTGAATGAAGGGAAATGGTCTCAGGTTTTGTCACTTTGGGGTTAACAATTTAAAAAACGTGTTTAA AGAATTATTAAGATAATAGTTCATTCCATTTTGTAGTAGACATTGGCTAAGGGGCTTACTGAACATAATTCTGCT TACGGTTGAATAATTACATTTTTATATATTGTCCTTCAAGAACTTCCTTGAGTCACATTCTCCTTAAAATTTG ACATTGCCTGTTGATCTTTCCTTTGACAGATGTGGTACTCTGTGTGACCTCAATGTGTCACCTCCTTTCTAGTTT CCTCCTTTAAAGGAAACACATGGTTAGAGTGTATCTTTATGGCAAAACTTCTCAGAGCTTCTAATATGCCCGGTG CTGTGGAAATCTGGAAGGAGAATAGCATTACCTGTGACAGTTCCCAAATCTGTTTGGTCACAAAACTTTTTTCCA CAGAATGTCTTGCAAGTCGTACTGGTTTTTGGAAATTCTGTATTAGATCTTTTGAAAGGCTTTTTCAAGCTTAAA AATTGTGGATCTTTTTTTTTTACTAAGGCTTTTGCTTTCAAAGATAAAAATATTTGCTCTTC

MEPVGCCGECRGSSVDPRSTFVLSNLAEVVERVLTFLPAKALLRVACVCRLWRECVRRVLRTHRSVTWISAGLAE AGHLEGHCLVRVVAEELENVRILPHTVLYMADSETFISLEECRGHKRARKRTSMETALALEKLFPKQCQVLGIVT PGIVVTPMGSGSNRPQEIEIGESGFALLFPQIEGIKIQPFHFIKDPKNLTLERHQLTEVGLLDNPELRVVLVFGY NCCKVGASNYLQQVVSTFSDMNIILAGGQVDNLSSLTSEKYVLCASDFVCE

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ATGTTCCGAGCGGCGCTCCGGGGCAGCTCCGGCGGCCGCCTCATTGCTACGATTTCAGAGTACCCTGGTAATA GCTGAGCATGCAAATGATTCCCTAGCACCCATTACTTTAAATACCATTACTGCAGCCACACGCCTTGGAGGTGAA GTGTCCTGCTTAGTAGCTGGAACCAAATGTGACAAGGTGGCACAAGATCTCTGTAAAGTAGCAGGCATAGCAAAA GTTCTGGTGGCTCAGCATGATGTGTACAAAGGCCTACTTCCAGAGGAACTGACACCATTGATTTTGGCAACTCAG AAGCAGTTCAATTACACACACATCTGTGCTGGAGCATCTGCCTTCGGAAAGAACCTTTTGCCCAGAGTAGCAGCC AAACTTGAGGTTGCCCCGATTTCTGACATCATTGCAATCAAGTCACCTGACACATTTGTGAGAACTATTTATGCA GGAAATGCTCTATGTACAGTGAAGTGTGATGAGAAAGTGAAAGTGTTTTCTGTCCGTGGAACATCCTTTGATGCT ${\tt GCAGCAACAAGTGGCGGTAGTGCCAGTTCAGAAAAGGCATCAAGTACTTCACCAGTGGAAATATCAGAGTGGCTT}$ GACCAGAAATTAACAAAAAGTGATCGACCAGAGCTAACAGGTGCCAAAGTGGTGGTATCTGGTGGTCGAGGCTTG ${\tt AAGAGTGGAGAACTTTAAGTTGTTATATGACTTGGCAGATCAACTACATGCTGCAGTTGGTGCTTCCCGTGCT}$ GCTGTTGATGCTGGCTTTGTTCCCAATGACATGCAAGTTGGACAGACGGGAAAAATAGTAGCACCAGAACTTTAT ATTGCTGTTGGAATATCTGGAGCCATCCAACATTTAGCTGGGATGAAAGACAGCAAGACAATTGTGGCAATTAAT ATGACTGAGATATTGAAGAAAAAATGAATCAGGATCATGCCTTAAAAAGAAAACTTTTGTTAAAGTATTCCACTG AAATCACAGATATTTGTGGGTATTATAACAATCATTGGAAAGCATGGAGAGCTACATTTCATAATTTGAGGGAAA ATTTCTAACAGATGCCAGAATGCTTGTTTATGGGATTGCTGTGTTTCCTTTTAATTATTTGTGGTTCCAAACAAT TATTGTTTGAACTTTTTAATTCTGTACTAAAATCTATAATAAAGCTTTTCCACAGCTTTAAAACT

MFRAAAPGQLRRAASLLRFQSTLVIAEHANDSLAPITLNTITAATRLGGEVSCLVAGTKCDKVAQDLCKVAGIAK VLVAQHDVYKGLLPEELTPLILATQKQFNYTHICAGASAFGKNLLPRVAAKLEVAPISDIIAIKSPDTFVRTIYA GNALCTVKCDEKVKVFSVRGTSFDAAATSGGSASSEKASSTSPVEISEWLDQKLTKSDRPELTGAKVVVSGGRGL KSGENFKLLYDLADQLHAAVGASRAAVDAGFVPNDMQVGQTGKIVAPELYIAVGISGAIQHLAGMKDSKTIVAIN KDPEAPIFQVADYGIVADLFKVVPEMTEILKKK

GCACTACCCGCTGGGCGAGCGCCGCGACCACCTACGACCGCGAGGCGCTGCTGGGCGTCCAGGAAGATGTGGATGA ATATGTTAAACTCGGCCACGAAGAGCAGCAAAAAAGACTGCAGGCGATCATAAAGAAAATCGACTTGGACTXCAG ATGGCTTTCTCACTGAAAGTGAACTCAGTTCATGGATTCAGATGTCTTTTAAGCATTATGCTATGCAAGAAGCAA AACAACAGTTTGTTGAATATGATAAAAACAGTGATGATACTGTGACTTGGGATGAATATAACATTCAGATGTATG ATCGTGTGATTGACTTTGATGAGAACACTGCTCTGGATGATGCAGAAGAGGGGGTCCTTTAGGAAGCTTCACTTAA AGGACAAGAAGCGATTTGAAAAAGCTAACCAGGATTCAGGTCCCGGTTTGAGTCTTGAAGAATTTATTGCTTTTG AGCATCCTGAAGAAGTTGATTATATGACGGAATTTGTCATTCAAGAAGCTTTAGAAGAACATGACAAAAATGGTG ATGGATTTGTTAGTTTGGAAGAATTTCTTGGTGATTACAGGTGGGATCCAACTGCAAATGAAGATCCAGAATGGA TACTTGTTGAGAAAGACAGATTCGTGAATGATTATGACAAAGATAACGATGGCAGGCTTGATCCCCAAGAGCTGT TACCTTGGGTAGTACCTAATAATCAGGGCATTGCACAAGAGGAGGCGCTTCATCTAATTGATGAAATGGATTTGA ATGGTGACAAAAAGCTCTCTGAAGAAGAGATTCTGGAAAACCCGGACTTGTTTCTCACCAGTGAAGCCACAGATT ATGGCAGACAGCTCCATGATGACTATTTCTATCATGATGAGCTTTAATCTCTGAGCCTGTCTCAGTAGAGTACTG GCTCCTTTTATAATTTGTTACCAGCTTTACTTTTGTGATAAAATATTGATGTTGTATTTTACACTCTTAAGTCTT ATTTCAAAATGTATTGAAGCAACAAAATATTAATATTGTGCCATATGACAACAAAGTCTTTCCTAAATACTCCAT CTGTTTAGTACTGTATTGTGGAATATTTGAGTTCTATTTCCATACTTGAAAACATGGAGGATTTTAGAGATGCCT GAACAATATTATTTAAGTAGTATGTGACCGAGCTATAAATTTTTGTTTTTGTTCTAAGTAGATTTAATTTGGGAA CTGACAGGACAATGTTTTTAGGTTTAGCATTTTGTTTAAAAAACCTTTAAAGAAACCTTTAGAAGGACTTAGACCT CACATATTAATGTTGAGAAGTTCTGCTTAATTTTAAAATGGTTTCTATAAAGGGTTTTATTGTATGAAATAGAAC TTTATATTTTTGCATATGTATAGATAGTAATTATATTTAATGTATAACTATAGCATTATGGTGAGTGGAATTTGA CATTGTCCAAACCTTTTTCATTTTTGAGTGATTAAAAATGAAATGTCCTTTGTA

GAGCCCGTCTTCCGACGTGCAGCCTGGCAGTGCAGTGAGCTGTCTGGCCTTTTGTCCTTGATCCTTGGTTAAGGA $\mathtt{A}\underline{\mathtt{ATG}}\mathtt{ACCAACCAGTACGGTATTCTCTTCAAACAAGAGCCAAGCCCATGATGATGCCATTTGGTCAGTTGCTTGGGGG$ GACGAACAAGAAGGAAAACTCTGAGACAGTGGTCACAGGCTCCCTAGATGACCTGGTGAAGGTCTGGAAATGGCG TGATGAGAGGCTGGACCTACAGTGGAGTCTGGAGGGACATCAGCTGGGAGTGGTGTCTGTGGACATCAGCCACAC CCTGCCCATTGCTGCATCCAGCTCTTTGATGCTCATATTCGTCTTTTGGGACTTGGAAAATGGCAAACAGATAAA GTCCATAGATGCAGGACCTGTGGATGCCTGGACTTTGGCCTTTTCTCCTGATTCCCAGTATCTGGCCACAGGAAC TCATGTCGGGAAAGTGAACATTTTTGGTGTGGAAAAGTGGGAAAAAGGAATATTCTTTGGACACGAGAGAAAATT CATTCTTAGTATTGCATATAGTCCTGATGGGAAATACCTAGCCAGTGGAGCCATAGATGGAATCATCAATATTTT TGATATTGCAACTGGAAAACTTCTGCATACCCTGGAAGGCCATGCCATGCCCATTCGCTCCTTGACCTTTTCCCC GGACTCCCAGCTCCTTGTCACTGCTTCAGATGATGGCTACATCAAGATCTATGATGTACAACATGCCAATTTGGC TTCGTCTGACAAAAGTGTAAAAGTTTGGGATGTTGGAACGAGGACTTGTGTTCACACCTTCTTTGATCACCAGGA TCAGGTCTGGGGAGTAAAATACAATGGAAATGGTTCAAAAATTGTGTCTGTTGGAGATGACCAGGAAATTCACAT $\verb|CTATGATTGTCCAAATT$\underline{\textbf{TAA}}$| \verb|CATCAAAGTCTCCAGGCTTATGCTGCAAAGAGAATGTACGGATTGATCATGACAT|$ TCCTTACCTTCTTAGGCTTGTTTAAAAGAAATATAGCATTTATTGTAGCAAAGACTTAAATTTTGTAGATACAAT AAAAA

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4632/6881 FIGURE 4271

MTNQYGILFKQEQAHDDAIWSVÄWGTNKKENSETVVTGSLDDLVKVWKWRDERLDLQWSLEGHQLGVVSVDISHT LPIAASSSLDAHIRLWDLENGKQIKSIDAGPVDAWTLAFSPDSQYLATGTHVGKVNIFGVESGKKEYSLDTRGKF ILSIAYSPDGKYLASGAIDGIINIFDIATGKLLHTLEGHAMPIRSLTFSPDSQLLVTASDDGYIKIYDVQHANLA GTLSGHASWVLNVAFCPDDTHFVSSSSDKSVKVWDVGTRTCVHTFFDHQDQVWGVKYNGNGSKIVSVGDDQEIHI YDCPI

GTGCAGGGACTTCACAGCCCACACGGGCTACGAGGTGCTGCTGCAGCGGCTTCTGGATGGCAGGAAGATGTGCAA AGACATGGAGGAGCTACTGAGGCAGAGGGCCCAGGCGGAGGAGCGGTACGGGAAGGAGCTGGTGCAGATCGCACG GAAGGCAGGTGGCCAGACGGAGATCAACTCCCTGAGGGCCTCCTTTGACTCCTTGAAGCAGCAAATGGAGAATGT GGGCAGCTCACACATCCAGCTGGCCCTGACCCTGCGTGAGGAGCTGCGGAGTCTCGAGGAGTTTCGTGAGAGGCA GAAGGAGCAGAGGAAGAAGTATGAGGCCGTCATGGACCGGGTCCAGAAGAGCAAGCTGTCGCTCTACAAGAAGGC CATGGAGTCCAAGAAGACATACGAGCAGAAGTGCCGGGACGCGGACGACGGCGAGGCCTTCGAGCGCATTAG CGCCAACGGCCACCAGAAGCAGGTGGAGAAGAGTCAGAACAAAGCCAGGCAGTGCAAGGACTCGGCCACCGAGGC AGAGCGGGTATACAGGCAGAGCATTGCGCAGCTGGAGAAGGTCCGGGCTGAGTGGGAGCAGGAGCACCGGACCAC $\tt CTGTGAGGCCTTTCAGCTGCAAGAGTTTGACCGGCTGACCATTCTCCGCAACGCCCTGTGGGTGCACAGCAACCA$ GCTCTCCATGCAGTGTGTCAAGGATGATGAGCTCTACGAGGAAGTGCGGCTGACGCTGGAAGGCTGCAGCATAGA CGCCGACATCGACAGTTTCATCCAGGCCAAGAGCACGGGCACAGAGCCCCCCGCTCCGGTGCCCTACCAGAACTA TTACGATCGGGAGGTCACCCCGCTGACCAGCAGCCCTGGCATACAGCCGTCCTGCGGCATGATAAAGAGGTTCTC TGGACTGCTGCACGGAAGTCCCAAGACCACTTCGTTGGCAGCTTCTGCTGCGTCCACAGAGACCCTGACCCCCAC CCCCGAGCGGAATGAGGGTGTCTACACAGCCATCGCAGTGCAGGAGATACAGGGAAACCCGGCCTCACCAGCCCA GGAGTACCGGGCGCTCTACGATTATACAGCGCAGAACCCAGATGAGCTGGACCTGTCCGCGGGAGACATCCTGGA GGTGATCCTGGAAGGGGAGGATGGCTGGTGGACTGTGGAGAGGAACGGGCAGCGTGGCTTCGTCCCTGGTTCCTA ACTGTCCCCACCTTGCTAGGGCCCAGAACCAAGCGTCCCCCAGCCCCGAGAGGGAGCCTGTCGTCTCCCAGGGAA TAAAGGAGTGCGTTCTGTT

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4634/6881 FIGURE 4273

GTTGCCAGGGAGCGGCGGGAGCCCTGAGGGGACTGCGGCGCTGCGCGGAGGAGCGAGGCGCTTGCTGGGGTC GGGGCTGCGCGACGGCGCAGGGGCTGCGGGGAGCGCCGCGCAGGCCGTGCAGTTCCTAGCGAGGAGGCGCCGCCG GTGCGGCATCACCTCCTACAAGACCGTGCTGGTCTTTCTCAACCTCATCTTCTGGGGGGCAGCTGGCATTTTATG CTATGTGGGAGCCTATGTCTTCATCACTTATGATGACTATGACCACTTCTTTGAAGATGTGTACACGCTCATCCC TGCTGTAGTGATCATAGCTGTAGGAGCCCTGCTTTTCATCATTGGGCTAATTGGCTGCTGTGCCACAATCCGGGA AAGTCGCTGTGGACTTGCCACGTTTGTCATCATCCTGCTCTTGGTTTTTTGTCACAGAAGTTGTTGTAGTGGTTTT GGGATATGTTTACAGAGCAAAGGTGGAAAATGAGGTTGATCGCAGCATTCAGAAAGTGTATAAGACCTACAATGG AACCAACCCTGATGCTGCTAGCCGGGCTATTGATTATGTACAGAGACAGCTGCATTGTTGTGGAATTCACAACTA CTCAGACTGGGAAAATACAGATTGGTTCAAAGAAACCAAAAACCAGAGTGTCCCTCTTAGCTGCTGCAGAGAGAC TGCCAGCAATTGTAATGGCAGCCTGGCCCACCCTTCCGACCTCTATGCTGAGGGGTGTGAGGCTCTAGTTGTGAA GAAGCTACAAGAAATCATGATGCATGTGATCTGGGCCGCACTGGCATTTGCAGCTATTCAGCTGCTGGGCATGCT GTGTGCTTGCATCGTGTTGTGCAGAAGGAGTAGAGATCCTGCTTACGAGCTCCTCATCACTGGCGGAACCTATGC A<u>TAG</u>TTGACAACTCAAGCCTGAGCTTTTTGGTCTTGTTCTGATTTGGAAGGTGAATTGAGCAGGTCTGCTGCTGT TGGCCTCTGGAGTTCATTTAGTTAAAGCACATGTACACTGGTGTTGGACAGAGCAGCTTGGCTTTTCATGTGCCC ACCTACTACCTACCTCCGCACTTTCTTTTTCCTTGTTCTAGCTGACTCTTCATGCCCCTAAGATTTTAAGTA CGATGGTGAACGTTCTAATTTCAGAACCAATTGCGAGTCATGTAGTGTGGTAGAATTAAAGGAGGACACGAGCCT GCTTCTGTTACCTCCAAGTGGTAACAGGACTGATGCCGAAATGTCACCAGGTCCTTTCAGTCTTCACAGTGGAGA ACTCTTGGCCAAAGGTTTTTGGGGGGAGGAGGAGGAGCAAACCAGCTTTCTGGTTAAGGTTAACACCAGATGGTGCCC CTCATTGGTGTCCTTTTAAAAAATATTTACTGTAGTCCAATAAGATAGCAGCTGTACAAAATGACTAAAAATAGAT TGTAGGATCATATGGCGTATATCTTGGTTCATCTTCAAAATCAGAGACTGAGCTTTGAAACTAGTGGTTTTTAAT CAAAGTTGGCTTTATAGGAGGAGTATAATGTATGCACTACTGTTTTAAAAGAATTAGTGTGAGTGTTTTTTGTA TGAATGAGCCCATTCATGGTAAGTCTTAAGCTTGTTGGAAATAATGTACCCATGTAGACTAGCAAAATAGTATGT AGATGTGATCTCAGTTGTAAATAGAAAAATCTAATTCAATAAACTCTGTATCAGCCCCCAACATATTATTTTTCA

MGQCGITSSKTVLVFLNLIFWGAAGILCYVGAYVFITYDDYDHFFEDVYTLIPAVVIIAVGALLFIIGLIGCCAT IRESRCGLATFVIILLLVFVTEVVVVVLGYVYRAKVENEVDRSIQKVYKTYNGTNPDAASRAIDYVQRQLHCCGI HNYSDWENTDWFKETKNQSVPLSCCRETASNCNGSLAHPSDLYAEGCEALVVKKLQEIMMHVIWAALAFAAIQLL GMLCACIVLCRRSRDPAYELLITGGTYA

CTTTCTTTGCTGCGTCTACTGCGAGA<u>ATG</u>AAGACTATTCTCAGCAATCAGACTGTCGACATTCCAGAAAATGTCG
ACATTACTCTGAAGGGACGCACAGTTATCGTGAAGGGCCCCAGAGGAACCCTGCGGAGGGACTTCAATCACATCA
ATGTAGAACTCAGCCTTCTTGGAAAGAAAAAAAAAGAGGCTCCGGGTTGACAAATGGTGGGGTAACAGAAAGGAAC
TGGCTACCGTTCGGACTATTTGTAGTCATGTACAGAACATGATCAAGGGTGTTACACTGGGCTTCCGTTACAAGA
TGAGGTCTGTGTATGCTCACTTCCCCATCAACGTTGTTATCCAGGAGAATGGGTCTCTTGTTGAAATCCGAAATT
TCTTGGGTGAAAAATACATCCGCAGGGTTCGGATGAGACCAGGTGTTGCTTGTTCAGTATCTCAAGCCCAGAAAG
ATGAATTAATCCTTGAAGGAAATGACATTGAGCTTGTTTCAAATTCAGCGGCTTTGATTCAGCAAGCCACAACAG
TTAAAAACAAGGATATCAGGAAATTTTTGGATGGTATCTATGTCTCTGAAAAAGGAACTGTTCAGCAGGCTGATG
AA<u>TAA</u>GATCTAAGAGTTACCTGGCTACAGAAAGAAGATGCCAGATGACACTTAAGACCTACTTGTGATATTTAAA
TGATGCAATAAAAGACCTATTGATTTGGA

MKTILSNQTVDIPENVDITLKGRTVIVKGPRGTLRRDFNHINVELSLLGKKKKRLRVDKWWGNRKELATVRTICS HVQNMIKGVTLGFRYKMRSVYAHFPINVVIQENGSLVEIRNFLGEKYIRRVRMRPGVACSVSQAQKDELILEGND IELVSNSAALIQQATTVKNKDIRKFLDGIYVSEKGTVQQADE

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4638/6881 FIGURE 4277

CTCGAGACGGGACCGAGAGCATCATGGGCAGCACTGTCCCGCGCTCCGCTGCTGCTTCTGCTGCTGCTCCC TGCGCCGGGCCGAGCAGCCCTGCGGGGCCGAGCTCACCTTCGAGCTGCCGGACAACGCCAAGCAGTGCTTCCACG ${\tt AGGAGGTGGAGCAGGGCGTGAAGTTCTCCCTGGATTACCAGGTCATCACTGGAGGCCACTACGATGTTGACTGCT}$ ATGTAGAGGACCCCCAGGGGAACACCATCTACAGAGAAACGAAGAAGCAGTACGACAGCTTCACGTACCGGGCTG ${\tt AAGTCAAGGGCGTTTATCAGTTTTGCTTCAGTAATGAGTTTTCCACCTTCTCACAAGACCGTCTACTTTGACT}$ TTCAAGTGGGCGATGAGCCTCCCATTCTCCCAGACATGGGGAACAGGGTCACAGCTCTCACCCAGATGGAGTCCG CCTGCGTGACCATCCATGAGGCTCTGAAAACGGTGATTGACTCCCAGACGCATTACCGGCTGCGGGAGGCCCAGG ACCGGGCCCGAGCGGAAGACCTTAATAGCCGAGTCTCTTACTGGTCTGTTGGCGAGACGATTGCCCTGTTCGTGG TCAGCTTCAGTCAGGTGCTACTGTTGAAAAGCTTCTTCACAGAAAAACGACCCATCAGCAGGGCAGTCCACTCCT GGGTCGCGTAGCCCAGGGTGGAGGCAGAACGATGCTGCTGTGGTAGCCCTTTGCCTTTCATGCCCATGCTTGATT CTTGCACCTCAGCAGCTGAAGGTCTCAGAGACCAGTAATCAGAAGGCATCCGACTGCATTAAGTGTGCAGCGCTG AAAAGACATTTACAACTAGGCCAGGGATTAGCCACTGTGGGAGGGTGGACAGGCAATGGTTCAGTGGCCTGGCTG $\tt TTGGCAGGAACTCCAAGTGCCCAGGCCTCTTGGGCAGCTTAGGGCCCTGCCTCTGTTTCATGATGCATGGGTCAT$ $\tt TTGTCTTGGGTGTCCTATCCCATATGGAGAAGAAAGGGGCTCTAAGTTCTGGCTCTTCTTTGGGGGTTCTCT$ GTACCTGAGGAAACCAGGCCCTGGGTGACTTTGCAGATCTGCTCACCCTCGGTGAGCAACAGTGTCAGCCATGCA AAAAAA

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GCGCAAGAGCCAAGCCGCCAGCGCTGCGATGTGGGCCACGCTGCCGCTGCTCTGCGCCGGGGCCTGGCTCCTGGG AGTCCCCGTCTGCGGTGCCGCCGAACTGTGCGTGAACTCCTTAGAGAAGTTTCACTTCAAGTCATGGATGTCTAA GCACCGTAAGACCTACAGTACGGAGGAGTACCACCACAGGCTGCAGACGTTTGCCAGCAACTGGAGGAAGATAAA CGCCCACAACAATGGGAACCACATTTAAAATGGCACTGAACCAATTTTCAGACATGAGCTTTGCTGAAATAAA ACACAAGTATCTCTGGTCAGAGCCTCAGAATTGCTCAGCCACCAAAAGTAACTACCTTCGAGGTACTGGTCCCTA CCCACCTTCCGTGGACTGGCGGAAAAAGGAAATTTTGTCTCACCTGTGAAAAATCAGGGTGCCTGCGGCAGTTG CTGGACTTTCTCCACCACTGGGGCCCTGGAGTCTGCGATCGCCATCGCAACCGGAAAGATGCTGTCCTTGGCGGA GTATATCCTGTACAACAAGGGGATCATGGGTGAAGACACCTACCCCTACCAGGGCAAGGATGGTTATTGCAAGTT GGCTGTGGCCCTCTACAACCCTGTGAGCTTTGCCTTTGAGGTGACTCAGGACTTCATGATGTATAGAACCGGCAT $\tt CTACTCCAGTACTTCCTGCCATAAAACTCCAGATAAAGTAAACCATGCAGTACTGGCTGTTGGGTATGGAGAAAA$ AAATGGGATCCCTTACTGGATCGTGAAAAACTCTTGGGGTCCCCAGTGGGGAATGAACGGGTACTTCCTCATCGA GCGCGGAAAGAACATGTGTGGCCTGGCTGCCTGCGCCTCCTACCCCATCCCTCTGGTGTGAGCCGTGGCAGCCGC GGGAGATCCACTGGGACCCCCAACATTCTGCCCTCACCTCTGTGCCCAGCCTGGAAACCTACAGACAAGGAGGAG TTCCACCATGAGCTCACCCGTGTCTATGACGCAAAGATCACCAGCCATGTGCCTTAGTGTCCTTCTTAACAGACT CAAACCACATGGACCACGAATATTCTTTCTGTCCAGAAGGGCTACTTTCCACATATAGAGCTCCAGGGACTGTCT TTTCTGTATTCGCTGTTCAATAAACATTGAGTGAGCACCTCC

FIGURE 4279

AGGTTGCCATAAAGGACAAACAAGTGAAATACTTCATACATTACAGTGGTTGGAATAAAAATTGGGATGAATGGG TTCCGGAGAGCAGAGTACTCAAATACGTGGACACCAATTTGCAGAAACAGCGAGAACTTCAAAAAAGCCAATCAGG AGCAGTATGCAGAGGGGAAGATGAGAGGGGCTGCCCCAGGAAAGAAGACATCTGGTCTGCAACAGAAAAATGTTG AAGTGAAAACGAAAAAGAACAAAACAGAAAACACCTGGAAATGGAGATGGTGGCAGTACCAGTGAGACCCCTCAGC CTCCTCGGAAGAAAAGGGCCCGGGTAGATCCTACTGTTGAAAATGAGGAAACATTCATGAACAGAGTTGAAGTTA AAGTAAAGATTCCTGAAGAGCTAAAACCGTGGCTTGTTGATGACTGGGACTTAATTACCAGGCAAAAACAGCTCT TTTATCTTCCTGCCAAGAAGAATGTGGATTCCATTCTTGAGGATTATGCAAATTACAAGAAATCTCGTGGAAACA CAGATAATAAGGAGTATGCGGTTAATGAAGTTGTGGCAGGGATAAAAGAATACTTCAACGTAATGTTGGGTACCC AGCTACTCTATAAATTTGAGAGACCACAGTATGCTGAAATTCTTGCAGATCATCCCGATGCACCCATGTCCCAGG TGTATGGAGCGCCACATCTCCTGAGATTATTTGTACGAATTGGAGCAATGTTGGCTTATACACCTCTGGATGAGA AGAGCCTTGCTTATTACTCAATTATCTTCACGATTTCCTAAAGTACCTGGCAAAGAATTCTGCAACTTTGTTCA $\tt GTGCCAGCGATTATGAAGTGGCTCCTCCTGAGTACCATCGGAAAGCTGTG\underline{TGA}\underline{GAGGCACTCTCACTCACTTATG}$ TTTGGATCTCCGTAAACACATTTTTGTTCTTAGTCTATCTCTTGTACAAACGATGTGCTTTGAAGATGTTAGTGT ATAACAATTGATGTTTGTTTTGTTTTGATTTTAAACAGAGAAAAAATAAAAGGGGGGTAATAGCTCCTTTTTTCT TCTTTCTTTTTTTTTCATTTCAAAATTGCTGCCAGTGTTTTCAATGATGGACAACAGAGGGATATGCTGTAGA GTGTTTTATTGCCTAGTTGACAAAGCTGCTTTTGAATGCTGGTGGTTCTATTCCTTTGACACTACGCACTTTTAT AATACATGTTAATGCTATATGACAAAATGCTCTGATTCCTAGTGCCAAAGGTTCAATTCAGTGTATATAACTGAA TGTTGTTACTTAGGCATTTTATCTTGGCTCAAATTGTTGAAGAATGGTGGCTTGTTTCATGGTTTTTGTATTTGT GTCTAATGCACGTTTTAACATGATAGACGCAATGCATTGTGTAGCTAGTTTTCTGGAAAAGTC?ATCTTTTAGGA ATTGTTTTTCAGATCTTCAATAAATTTTTTTTTTTAAATTTC

 $\label{thm:convenience} $$ \text{MarkQdpkpkfqegervlcfhgpllyeakcvkvaikdkqvkyfihysgwnknwdewvpesrvlkyvdtnlqkqre} $$ \text{LQKanqeqyaegkmrgaapgkktsglqqknvevktkknkqktpgngdgstsetpqpprkkrarvdptveneetf} $$ \text{Mnrvevkvkipeelkpwlvddwdlitrqkqlfylpakknvdsiledyanykksrgntdnkeyavnevvagikeyf} $$ \text{Nvmlgtqllykferpqyaeiladhpdapmsqvygaphllrlfvrigamlaytpldekslalllnylhdflkylak} $$ \text{Nsatlfsasdyevappeyhrkav} $$$

GAACCGCCATCTTCCAGTAATTCGCCAAAATGACGAACACAAAGGGAAAGAGGAGAGGCACCCAATATATGTTCT
CTAGGCCTTTTAGAAAACATGGAGTTGTTGCTTTGGCCACGTATATGCAAATCTATAAGAAAGGTGATATTGTAG
ACATCAAGGGAATGGGTACTGTTCAAAAAGGAATGCCCCACAAGTGTTACCATGGCAAAACTGGAAGAGTCTATA
ATGTCCCCCAGCATGCTGTTGGCATTGTTGTAAACACACAAGTTAAGGGCAAGATTCTTGCCAAGAGAATTAATG
TGCGTATTGAGCACATTAAGCACTCTAAAAGCTGAGATAGTTTCCTGAAACACATGAAGGAAAATGATCAGAAAA
AGAAGGAAGCCAAATAGAAAGGTACCTGGGTTCAACAGAAGCACCAGCCTGCTCCACCCAGAGAAGCACACTTTG
TGAGAACCAATGCGAAGGAGCCTGAGCTGCTGGAACCTATTCCCTATGAATTCATGGCATAACAGGTGTTAATAA
ATAAATAAAAGACCTCTGGGCTGT

CTTTCTTTGCTGCGTCTACTGCGAGAATGAAGACTATTCTCAGCAATCAGACTGTCGACATTCCAGAAAATGTCG
ACATTACTCTGAAGGGACGCACAGTTATCGTGAAGGGCCCCAGAGGAACCCTGCGGAGGACTTCAATCACATCA
ATGTAGAACTCAGCCTTCTTGGAAAGAAAAAAAAAGAGGCTCCGGGTTGACAAAATGGTGGGGTAACAGAAAGGAAC
TGGCTACCGTTCGGACTATTTGTAGTCATGTACAGAACATGATCAAGGGTGTTACACTGGGCTTCCGTTACAAGA
TGAGGTCTGTGTATGCTCACTTCCCCATCAACGTTGTTATCCAGGAGAATGGGTCTCTTGTTGAAATCCGAAATT
TCTTGGGTGAAAAATACATCCGCAGGGTTCGGATGAGACCAGGTGTTGCTTGTTCAGTATCTCAAGCCCAGAAAG
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TTAAAAACAAGGATATCAGGAAATTTTTGGATGGTTATCTATGTCTCTGAAAAAGAAGATGCCAGATGACACT

 ${\tt MGRVRTKTVKKAARVIIEKYYTRLGNDFHTNKRVCEEIAIIPSKKLRNKIAGYVTHLMKRIQRGPVRGISIKLQE} \\ {\tt EERERRDNYVPEVSALDQEIIEVDPDTKEMLKLLDFGSLSNLQVTQPTVGMNFKTPRGPV}$

CAGTGGCAGCATGGAACCTGCATTTCATAGAGGAGATCTTCTCTTTCTAACAAATCGAGTTGAAGATCCCATACG
AGTGGGAGAAATTGTTGTTTTTTAGGATAGAAGGAGAGAGATTCCTATAGTTCACCGAGTCTTGAAGATTCATGA
AAAGCAAAATGGGCATATCAAGTTTTTGACCAAAGGAGATAATAATGCGGTTGATGACCGAGGCCTCTATAAACA
AGGACAACATTGGCTAGAGAAAAAAGATGTTGTGGGGAGAGCCAGGGGATTTGTTCCTTATATTGGAATTGTGAC
GATCCTCATGAATGACTATCCTAAATTTAAGTATGCAGTTCTCTTTTTGCTGGGTTTATTCGTGCTGGTTCATCG
TGAGTAAGAAGCCTGCCTTGCTGTTCCTGGGAAGATGCCATAGTTTTCGTTACTGGATGTTTGGAGTAGATACTG
GTCTGTGATTGGTGGAATGGAGAACACACGTGTTGGTGCTTCTGGGTAGCACTGGTTTGCATTAGTTTATGTTTC
CATGCCAGAGTTTGTTGTGGGCGGGCGCATGTGCACCACAGAGTGCACTCGAGGGGACTTTCAGTCACAGGATTTC
ATAATTGTCATTGTCACACTTTCAAATTTTTGTACATCAGTGAATTTTTTTATATTAAAAGGTTGAGCCAAAAGCC
CCCAGTGTTTGTATTTTGAAGCCAAGCTTCACTTCTAAAGTGCCTACAGAGACTTGTAAATGAAAATGCAGCTCT
GCACGAGTTTGAAACCGTCATACCTCCTTCTATTAGGAATGGCATATACTGAGGTGGTCGTAAGTCTTAACTTCT
AAAATTTTAAATAAAAGACTTTGCACATTG

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4647/6881 FIGURE 4286

TGTGGGTGGAGGCACGTTGGGGATCCTGGTGCAGAGTGGGCCAGCTGTGGCCTCGGGGCTCGCCACCGTGGAGGA GAGCCGCCTTGTGAAGACGCAGTGCCCAGTTAGTTTGCGCCAGCCTCTGAGTTCAGCTCAGAACACAGATGATC ACATCAAGGGACTGGCCTGGTCCCAGAAACAGGGAGTAAAATGGGAAGTAAACTCAGTCCCACGTCTGCCTGACT $\verb|CCAGAGTTTGGGCCACTGAACCATGCGGCTGCCATCTTGGAGTTCTTTGAGCTGTGAAGTGCTGTGCATCGTGTG|\\$ ATTCTGTGTCCCTTTTGTGCAGGTACCAGGATTTCTATGCATTCGACCTGTCAGGAGCCACTCGAGTCCTTGAAT GGATTGATGACAAAGGAGTCTTTGTTGCTGGCTATGAAAGCCTGAAAAAGAATGAAATTCTTCATCTGAAATTAC CTCTCAGACTTTCTGTAAAGGAAAACAAGGGCTTATTCCCAGAAAGAGATTTCAAAGTGCGCCATGGAGGATTTT CAGACAGGTCTATCTTTGATCTAAAGCATGTGCCACATACCAGATTGCTGGTTACCAGTGGCCTTCCAGGTTGTT TGTGACTCATACACCCCTGTCCCCTAATCTGAGCCAGTTAAGAAGGAGACTCAGGCTGGGGACAGTCTCATGCCT GTAATTGTAGCACTTTGGGAGGCTGAGCTGGGTGGATCACTTGAATTCAGGAGTTGAAGACCACCTTGTACAACA TGGTGAAACCTGTCTCTATTAAAAATACAAAAAATTAGCCGGGCATGGTGGTAGGCACCTGTAATCCCTGCTACT GGGGAGACTGAGCCAGGAGAATTGCTTGAACCTGGGAGGCGGAGGTTACAGTGAGCCGAGATCATGCCACTGCAC TAATCTACTTTAATGC

 ${\tt CCGGAAGAGACACGCGGGGCTTCAGGCTGCCCCATTGGAAGATTACTCCCCAGGCTTCCCTTGCCCCAAGCA}$ GTGAGCTGACTGGAATGGTACCCCGGGAGGCCCCTGAGTCTGCTCAGTGCCCTGTGCCCTTCCCTCACCATCCCAA ATGCCAAGGATGTGCTTCGGAAGAGGCACAAGAGAAGGAGCCGACAGCACCAGCGGTTCATGGCCCGGAAGGCCT TGCTGCAGGAGCAGGGGCTGCTGAGCATGCCTCCAGAACCAGGGTCCTCCCCACTGCCCACCCCTTTCGGGGCAG CGACAGCAACTGAAGCTGCCAGCAGTGGGAAGCAGTGTCTGAGGGCTGGATCTGGCAGTGCCCCATGCAGCAGAA GGCCTGCTCCCGGGAAAGCCTCAGGGCCCTTGCCCAGCAAGTGTGTGGCTATCGACTGTGAGATGGTGGGCACGG GACCCCGAGGGCGGGTAAGCGAGCTGGCCCGCTGTTCCATTGTGAGCTACCATGGCAATGTCCTCTATGACAAGT ACAACGACTTCCAGGCGCTCAAGTATGTCCACCCTCGGAGCCAGACCCGGGATACGACCTATGTCCCAAACTTCC TCAGCGAGCCCGGCCTCCACACCCGGGCCCGGGTCTCTCTAAAGGACCTGGCCCTGCAGCTGCTGCACAAGAAGA TCCAGGTGGGCCAGCACGGCACTCATCAGTAGAAGATGCCACGACAGCCATGGAGCTCTACCGGCTGGTGGAGG TGCAGTGGGAACAGCAGGAGGCCCGCAGCCTCTGGACCTGCCCCGAGGACAGAACCTGACAGCACAGACA TGGAACAGTACATGGAGGACCATCCACCCAGTACTGGGCTCTTAAGCAAAAGTCTGAGAAACAAGACAAGTGGTTT $\tt CCCCGAACCTGGTCTGATGCCCCTCAGCTCTTTGACAATCACTGTGGCTGTTGGGTTTTCTCCTATTTCTAAA$ AATGTTCTCTTCTTCCTAAGTGACAGTTTTGAAGTATTGGATAACCAAGAGCTCAGGTCACACAGACCTTGGAG CATCTGTAAAGTGGGGATAGTGGTACGGCCTACCTCATAGGGTTGTAATGAGCACTAAATGTGAAGTGCTTGGCA TTTATTCTTTGAGAATTTGTTGTAACTTCTTCAGGATAACACCTGAGTCCACAGGCTGAGCAGCTGTGGCCCAGA CAGAACTGCTCCGGCTTGGCTGTTCCAGCAGGTGGGGCGCTGGCCTCGGTGAGGGCACAGCAAGGTTCACGG ATATCCGTGTGTCTTGTCTGTGGCCACCAGGCACAGGTTTGGCTTCCGGTCAGTGTCCCGACACTGTGCGGGAGG TGACAACAGAGCAAAGCAGCGCAGGGGTCAGGGAGGTACAGACACTGCTGAAATCACACTACCCCACCCTCAGCT GGAAGGGGCTAACTGAATCTTTTACCACTTCTGGCCTGGCTCCAGAACTTTGTTCTAGATTCCTTAAAAGTCGGT AGCGGGGAAATGTACTATTTAAGATCAGCTTTGTTGTAAAACCATTTGTTCTAGAATAAAACTCAATTGGAAACG TG

MVPREAPESAQCLCPSLTIPNAKDVLRKRHKRRSRQHQRFMARKALLQEQGLLSMPPEPGSSPLPTPFGAATATE AASSGKQCLRAGSGSAPCSRRPAPGKASGPLPSKCVAIDCEMVGTGPRGRVSELARCSIVSYHGNVLYDKYIRPE MPIADYRTRWSGITRQHMRKAVPFQVAQKEILKLLKGKVVVGHALHNDFQALKYVHPRSQTRDTTYVPNFLSEPG LHTRARVSLKDLALQLLHKKIQVGQHGHSSVEDATTAMELYRLVEVQWEQQEARSLWTCPEDREPDSSTDMEQYM EDQYWPDDLAHGSRGGAREAQDRRN

FIGURE 4290

AGTCCCGGAACTGCTAGAACGAACCATTCGCATATGGAGGGGGTGACCCACCATCTCAGAACATTAAAAAAGGGA AAGAATCCCCTGGTGAACTACAGTGAAAGTCTTATTGAGCATTTAAATGGAAATAAAAATATTCAGTGGACCTAA TGAAGAGTAGATGACTTTCCCTTCTGTCCCCTCCCGACAGGCACTCATGGTACCGGCGCGGCGCAGCTGTGAC ${\tt TGTCGCTGCAGACGGAAACTGACTGGGGTCAATTCAAGTC} \underline{{\tt ATG}} \underline{{\tt CAGGCTGTGAGAAACGCGGGGTCGCGGTTCCT}}$ TCGACAGCTCCAAGACGCTGCGGCCAAGCAGAAAGTTGAACAGAACGCGGCTCCCAGCCACCAAGTTCAGCAT CATTAAAGCATCCCACAACAACACACAGATCCAGGTAGTCTCTGCTAGTAATGAGCCCCTTGCCTTTGCTTCCTG GAGAGCTAAACAAAAGGGCGTGATCCACATCCGAGTTGTGGTGAAAGGCCTGGGGCCAGGACGCTTGTCTGCCAT GCACGGACTGATCATGGGCGGCCTGGAAGTGATCTCAATCACAGACAACACCCCAATCCCACACAACGGCTGCCG $\tt CCCCAGGAAGGCTCGGAAGCTG{\color{red} {\bf TGA}} \tt TGGGAAGGAGGCCTGCACTTGGACCTCAAGCCTCAGCTCCAGTGG$ GACCTTGTAAAATGCTCCCTGTCAGAGCTCTCCAGAATATGCTTGTTGGAGATCCTTCAGGCAGTAAGGGAGAGT TTTGCCTCCTTACACAGTGGCCTTTGCTTGCACCTCCAGCTGGAGATGGGTGTGCCCCAGAAGTAAGCTTTGCAT CCACCTGTCAA

 ${\tt MQAVRNAGSRFLRSWTWPQTAGRVVARTPAGTICTGARQLQDAAAKQKVEQNAAPSHTKFSIYPPIPGEESSLRWAGKKFEEIPIAHIKASHNNTQIQVVSASNEPLAFASCGTEGFRNAKKGTGIAAQTAGIAAAARAKQKGVIHIRVVVKGLGPGRLSAMHGLIMGGLEVISITDNTPIPHNGCRPRKARKL$

TAATTTTTGCCCAGTCTGCCTGTTGTGGGGGCTCCTCCCCTTTGGGGATATAAGCCCGGCCTGGGGCTGCTCCGTT CTCTGCCTGGCCTGAGGCTCCCTGAGCCGCCTCCCCACCATCACCATGGCCAAGGGCTTCTATATTTCCAAGTCC CTGGGCATCCTGGGGATCCTCCTGGGCGTGGCAGCCGTGTGCACAATCATCGCACTGTCAGTGGTGTACTCCCAG GAGAAGAACAAGAACGCCAACAGCTCCCCCGTGGCCTCCACCACCCCGTCCGCCTCAGCCACCACCAACCCCGCC TCGGCCACCACCTTGGACCAAAGTAAAGCGTGGAATCGTTACCGCCTCCCCAACACGCTGAAACCCGATTCCTAC TTCACCTGCAAGGAGGCCACTGACGTCATCATCATCCACAGCAAGAAGCTCAACTACACCCTCAGCCAGGGCACA GGGTGGTCCTGCGTGTGTGGGAGGCTCCCAGCCCCCGACATTGACAAGACTGAGCTGGTGGAGCCCACCGAGT ACCTGGTGGTGCACCTCAAGGGCTCCCTGGTGAAGGACAGCCAGTATGAGATGGACAGCGAGTTCGAGGGGGAGT TGGCAGATGACCTGGCGGGCTTCTACCGCAGCGAGTACATGGAGGGCAATGTCAGAAAGGTGGTGGCCACTACAC AGATGCAGGCTGCAGATGCCCGGAAGTCCTTCCCATGCTTCGATGAGCCCGGCCATGAAGGCCGAGTTCAACATCA CGCTTATCCACCCCAAGGACCTGACAGCCCTGTCCAACATGCTTCCCAAAGGTCCCAGCACCCCACTTCCAGAAG ACCCCAACTGGAATGTCACTGAGTTCCACACCACGCCCAAGATGTCCACGTACTTGCTGGCCTTCATTGTCAGTG AGTTCGACTACGTGGAGAAGCAGGCATCCAATGGTGTCTTGATCCGGATCTGGGCCCGGCCCAGTGCCATTGCGG CGGGCCACGGCGATTATGCCCTGAACGTGACGGGCCCCATCCTTAACTTCTTTGCTGGTCATTATGACACACCCT ACCCACTCCCAAAATCAGACCAGATTGGCCTGCCAGACTTCAACGCCGGCGCCCATGGAGAACTGGGGACTGGTGA CCTACCGGGAGAACTCCCTGCTGTTCGACCCCCTGTCCTCCAGCAGCAACAAGGAGCGGGTGGTCACTGTGA TTGCTCATGAGCTGGCCCACCAGTGGTTCGGGAACCTGGTGACCATAGAGTGGTGGAATGACCTGTGGCTGAACG AGGGCTTCGCCTCCTACGTGGAGTACCTGGGTGCTGACTATGCGGAGCCCACCTGGAACTTGAAAGACCTCATGG TGCTGAATGATGTGTACCGCGTGATGGCAGTGGATGCACTGGCCTCCTCCCACCCGCTGTCCACACCCGCCTCGG AGATCAACACGCCGGCCCAGATCAGTGAGCTGTTTGACGCCATCTCCTACAGCAAGGGCGCCTCAGTCCTCAGGA TGCGGGACATCATGAACCGCTGGACCCTGCAGATGGGCTTCCCGGTCATCACGGTGGATACCAGCACGGGGACCC TTTCCCAGGAGCACTTCCTCCTTGACCCCGATTCCAATGTTACCCGCCCCTCAGAATTCAATGGATTGTGCCCAT CACATCCATCAGAGATGGCAGACAGCAGGACTACTGGCTGATAGATGTAAGAGCCCAGAACGATCTCTTCAG CACATCAGGCAATGAGTGGGTCCTGCTGAACCTCAATGTGACGGGCTATTACCGGGTGAACTACGACGAAGAGAA CTGGAGGAAGATTCAGACTCAGCTGCAGAGAGACCACTCGGCCATCCCTGTCATCAATCGGGCACAGATCATTAA TGACGCCTTCAACCTGGCCAGTGCCCATAAGGTCCCTGTCACTCTGGCGCTGAACAACACCCTCTTCCTGATTGA AGAGAGACAGTACATGCCCTGGGAGGCCGCCCTGAGCAGCCTGAGCTACTTCAAGCTCATGTTTGACCGCTCCGA CAACTGGAGGGAGATCCCAGAAAACCTGATGGACCAGTACAGCGAGGTTAATGCCATCAGCACCGCCTGCTCCAA GGAGCAGTTCCGAAATGCCACACTGGTCAATGAGGCTGACAAGCTCCGGGCAGCCCTGGCCTGCAGCAAAGAGTT GTGGATCCTGAACAGGTACCTGAGCTACACCCTGAACCCGGACTTAATCCGGAAGCAGGACGCCACCTCTACCAT CATCAGCATTACCAACAACGTCATTGGGCAAGGTCTGGTCTGGGACTTTGTCCAGAGCAACTGGAAGAAGCTTTT TAACGATTATGGTGGTGGCTCGTTCTCCTTCTCCAACCTCATCCAGGCAGTGACACGACGATTCTCCACCGAGTA TGAGCTGCAGCAGCTGGAGCAGTTCAAGAAGGACAACGAGGAAACAGGCTTCGGCTCAGGCACCCGGGCCCTGGA GCAAGCCCTGGAGAAGACGAAAGCCAACATCAAGTGGGTGAAGGAGAACAAGGAGGTGGTGCTCCAGTGGTTCAC AGAAAACAGCAAATAGTCCCCAGCCCTTGAAGTCACCCGGCCCCCATGCAAGGTGCCCACATGTGTCCATCCCAG CGGCTGGTGCAGGCCTCCATTCCTGGAGCCCGAGGCACCAGTGTCCTCCCCTCAAGGACAAAGTCTCCAGCCCA CGTTCTCTCTGCCTGTGAGCCAGTCTAGTTCCTGATGACCCAGGCTGCCTGAGCACCTCCCAGCCCCTGCCCCTC ATGCCAACCCCGCCTAGGCCTGGCATGGCACCTGTCGCCCAGTGCCCTGGGGCTGATCTCAGGGAAGCCCAGCT CCAGGGCCAGATGAGCAGAAGCTCTCGATGGACAATGAACGGCCTTGCTGGGGGGCCGCCCTGTACCCTCTTTCAC CTTTCCCTAAAGACCCTAAATCTGAGGAATCAACAGGGCAGCAGATCTGTATATTTTTTTCTAAGAGAAAATGTA **AATAAAGGATTTCTAGATG**

PCT/US2003/028547

4654/6881 FIGURE 4293

CGCCGGCGGCCCTGACAGCCCCCACCTCGCAAGAGCATCCGCGGCGCCACTATGCCGACAAAAGGATCAAGGTGG CGAAGCCCGTGGTGGAGATGGATGATGAGATGACCCGTATTATCTGGCAGTTCATCAAGGAGAAGCTCATCC TGCCCCACGTGGACATCCAGCTAAAGTATTTTGACCTCGGGCTCCCAAACCGTGACCAGACTGATGACCAGGTCA CCATTGACTCTGCACTGGCCACCCAGAAGTACAGTGTGGCTGTCAAGTGTGCCACCATCACCCCTGATGAGGCCC GTGTGGAAGAGTTCAAGCTGAAGAAGATGTGGAAAAGTCCCAATGGAACTATCCGGAACATCCTGGGGGGGACTG GGCACGCCCATGGCGACCAGTACAAGGCCACAGACTTTGTGGCAGACCGGGCCGGCACTTTCAAAATGGTCTTCA $\tt CCCCAAAAGATGGCAGTGGTCAAGGAGTGGGAAGTGTACAACTTTCCCGCAGGCGGCGTGGGCATGGGCATGT$ ${\tt ACAACACCGACGAGTCCATCTCAGGTTTTGCGCACAGCTGCTTCCAGTATGCCATCCAGAAGAAATGGCCGCTGT}$ ACATGAGCACCAAGAACACCATACTGAAAGCCTACGATGGGCGTTTCAAGGACATCTTCCAGGAGATCTTTGACA ${\tt AGCACTATAAGACCGACTTCGACAAGAATAAGATCTGGTATGAGCACCGGCTCATTGATGACATGGTGGCTCAGG}$ TCCTCAAGTCTTCGGGTGGCTTTGTGTGGGCCTGCAAGAACTATGACGGAGATGTGCAGTCAGACATCCTGGCCC AGGGCTTTGGCTCCTGATGACGTCCGTCCTGGTCTGCCCTGATGGGAAGACGATTGAGGCTGAGGCCG TCTTTGCCTGGACACGTGGCCTGGAGCACCGGGGGAAGCTGGATGGGAACCAAGACCTCATCAGGTTTGCCCAGA TGCTGGAGAAGGTGTGCGTGGAGACGGTGGAGAGTGGAGCCATGACCAAGGACCTGGCGGGCTGCATTCACGGCC TCAGCAATGTGAAGCTGAACGAGCACTTCCTGAACACCATGGACTTCCTCGACACCATCAAGAGCAACCTGGACA TCCTGAGCGCGGCAGAGGGTGAGCCTCACAGCCCCTCTCTGGAGGCCTTTCTAGGGGATGTTTTTTATAAGCCA GATGTTTTTAAAAGCATATGTGTTTTCCCCTCATGGTGACGTGAGGCAGGAGCAGTGCGTTTTACCTCAGCCAG TCAGTATGTTTTGCATACTGTAATTTATATTGCCCTTGGAACACATGGTGCCATATTTAGCTACTAAAAAGCTCT TCACAAAAAAAAAACGGATTCCGCG

PCT/US2003/028547

4655/6881 FIGURE 4294

MAGYLRVVRSLCRASGSRPAWAPAALTAPTSQEHPRRHYADKRIKVAKPVVEMDGDEMTRIIWQFIKEKLILPHV DIQLKYFDLGLPNRDQTDDQVTIDSALATQKYSVAVKCATITPDEARVEEFKLKKMWKSPNGTIRNILGGTVFRE PIICKNIPRLVPGWTKPITIGRHAHGDQYKATDFVADRAGTFKMVFTPKDGSGVKEWEVYNFPAGGVGMGMYNTD ESISGFAHSCFQYAIQKKWPLYMSTKNTILKAYDGRFKDIFQEIFDKHYKTDFDKNKIWYEHRLIDDMVAQVLKS SGGFVWACKNYDGDVQSDILAQGFGSLGLMTSVLVCPDGKTIEAEAAHGTVTRHYREHQKGRPTSTNPIASIFAW TRGLEHRGKLDGNQDLIRFAQMLEKVCVETVESGAMTKDLAGCIHGLSNVKLNEHFLNTMDFLDTIKSNLDRALG

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AGAACCCCGCGGGGTCTGAGCAGCCCAGCGTGCCCATTCCAGCGCCCGCGTCCCCGCAGCATGCCGCGCCCCCGC CCCTGCCACACGGTGGTTTATGCGAGGAGATTTCCCAAGAAGTGCGAGGAGATGTCTTCCCCTCGTACACCTGC ACGTGCCTTAAGGGCTACGCGGGCAACCACTGTGAGACGAAATGTGTCGAGCCACTGGGCCTGGAGAATGGGAAC ATTGCCAACTCACAGATCGCCGCCTCGTCTGTGCGTGTGACCTTCTTGGGTTTGCAGCATTGGGTCCCGGAGCTG GCCCGCCTGAACCGCGCAGGCATGGTCAATGCCTGGACACCCAGCAGCAATGACGATAACCCCTGGATCCAGGTG AACCTGCTGCGGAGGATGTGGGTAACAGGTGTGGTGACGCAGGGTGCCAGCCGCTTGGCCAGTCATGAGTACCTG AAGGCCTTCAAGGTGGCCTACAGCCTTAATGGACACGAATTCGATTTCATCCATGATGTTAATAAAAAACACAAG GAGTTTGTGGGTAACTGGAACAAAAACGCGGTGCATGTCAACCTGTTTGAGACCCCTGTGGAGGCTCAGTACGTG AGATTGTACCCCACGAGCTGCCACACGGCCTGCACTCTGCGCTTTGAGCTACTGGGCTGTGAGCTGAACGGATGC GCCAATCCCCTGGGCCTGAAGAATAACAGCATCCCTGACAAGCAGATCACGGCCTCCAGCAGCTACAAGACCTGG GGCTTGCATCTCTTCAGCTGGAACCCCTCCTATGCACGGCTGGACAAGCAGGGCAACTTCAACGCCTGGGTTGCG GGGAGCTACGGTAACGATCAGTGGCTGCAGGTGGACCTGGGCTCCTCGAAGGAGGTGACAGGCATCATCACCCAG GGGGCCCGTAACTTTGGCTCTGTCCAGTTTGTGGCATCCTACAAGGTTGCCTACAGTAATGACAGTGCGAACTGG ACTGAGTACCAGGACCCCAGGACTGGCAGCAGTAAGATCTTCCCTGGCAACTGGGACAACCACTCCCACAAGAAG CGCCTGGAGCTGCTGGGCTGTTAGTGGCCACCTGCCACCCCAGGTCTTCCTGCTTTCCATGGGCCCGCTGCCTC TTGGCTTCTCAGCCCCTTTAAATCACCATAGGGCTGGGGACTGGGGAAGGGGAGGGTGTTCAGAGGCAGCACCAC CACACAGTCACCCCTCCCTCCCTCTTTCCCACCCTCCACCTCTCACGGGCCCTGCCCCAGCCCCTAAGCCCCGTC CCCTAACCCCCAGTCCTCACTGTCCTGTTTTCTTAGGCACTGAGGGATCTGAGTAGGTCTGGGATGGACAGGAAA TAGCCCCTCTCTCACACATCACATTCCCATGGTGGCCTCAAGAAAGGCCCGGAAGCGCCAGGCTGGAGATAACAG CCTCTTGCCCGTCGGCCCTGCGTCGGCCCTGGGGTACCATGTGGCCACAACTGCTGTGGCCCCCTGTCCCCAAGA CACTTCCCCTTGTCTCCCTGGTTGCCTCTTTGCCCCTTGTCCTGAAGCCCAGCGACACAGAAGGGGGTGGGGCG GGTCTATGGGGAGAAAGGGAGCCGAGGTCAGAGGAGGGCATGGGTTGGCAGGGTGGGCGTTTGGGGCCCTCTATGC TGGCTTTTCACCCCAGAGGACACAGGCAGCTTCCAAAATATATTTATCTTCTTCACGGG

FIGURE 4296

GGCCGCGCGTCCCAGAGAGCCAGCCCCGGCCGCCGCCGGGGAAGTGCCGCCTGGTGGGGTCACGGCGCCTGAA GCCCACGTGCGCCGCCGAGCCCGAGGTGGCCTCGAGCGCGGCGGCTGACAGCACAGCCCGCCTGAGCTGCCTCCC CGCCCTCCCGCTCCGAGGGCCGCCGCCAGGCCATGCCCAAGAAGGCGGCGGCGGCGGCGAACCAGCAGAAGGGAC TTTCCTGGCAGCCCGGCGACGAGGAGCGCGGACAGTGAGTTTGCTCTGCCCCGGTTCATGGTTCCTGCAAGCCCT CTAGGAGGCCGAAAGCTGCAGCCCCTCCCCTTGCCCCGAAGAGCCTTCCGCGTTCTCTCGCCCTCGGGCCCACCC CGCGCCGCCGGGCTCCCGCCGCCGCAGCCCAGTGCCCTCTGCCCGCGGCGGTGGATGGCATGATGGTGCGGGGA AGGCACCGCGCCTTGGCCAGCTGAGTCGCGACGGCCGCCGGGGCGGCGGCAGTGGCCGCGGCAGCGGCGGTGGT AGCGGGCTCCCCAGCGGCATGCCAGTGCCCCCGGGCGCGATGCTAGCGGCAGCGCCGGGAAGCCCACTGGCGA GGCGGCTTCTCCGGCTCCTGCGAGCGCCATCGGCGGGGCCAGCTCGCAGCCGCGGAAGAGGCTGGTATCCGTCTG CGAGGGCCCCGCCTCCTCTGGTGCCGGCGCCGAGTCCTTCGAGCAGTGCCGGGACACCATCATCGCGCGCACCAA GGGGCTCTCCATCCTCACCCACGACGTGCAGAGCCAGCTCAACATGGGCCGCTTCGGGGAGGCGGGGGACAGCCT GGTGGAGCTGGGCGACCTGGTGTCGCTGACCGAGTGCTCGGCCCACGCGGCCTATCTGGCCGCTGTGGCCAC GCCGGCCCCAGCCCGCGCAGCCGGCCTGGTGGACCGCTACCGCGTGACGCGATGCCGCCACGAGGTGGAGCA GGGTTGCGCCGTGCTGCCGCCACGCCGCTGGCCGACATGACGCCGCAGCTGCTGCAGGGTGTCGCAGGGCCT GTCGCGCAACCTCAAGTTCCTGACGGACGCGTGCGCCCTGGCCAGTGACAAGTCACGGGACCGCTTTTCGCGGGA AGGCTTCGCCACCGAGCCGCAGTTCCTGGGTCGCGCGGCAGCTGTGAGCGCCGAGGGCAAGGCGGTGCAGACCGC CATCCTGGGCGGCGCCATGAGCGTGTTCGGCCTGCGTGCTCCTGACCCAGTGCCTCAGGGATCTGGCGCAGCA CCCCGACGGGGGCGCCAAGATGTCGGACCACAGGGAGAGGCTGAGGAACTCGGCCTGCGCCGTGTCTGAAGGCTG CACCCTGCTATCTCAGGCTTTAAGGGAGAGGTCTTCGCCCAGGACTTTACCGCCAGTGAATTCCAATTCTGTGAA TATACCAAAGAATCATAGGTGAAACCCCCTACCCTCCCCAACGTTAAATGCTCGAGAGGAATCTTCCACAAGGC AGGGCCATGCACGCAACCTGCACACGCACTTGGAGGGCCCAGGTGTCTCTCCACCAGCCCCCATGCAGTAGGGAC TGGAAGATATGTCATCTGCTGGTTGTTATCACTCCCACCCCTACCCCAGCCCGTCTTCCGGAATTTCTCAAC CGTGTTGAATTAGGAGTATACTTGGTGAGGAAAGAGTATGAATTTGCCATGTGATTTGCAAATGGGGGGAAGCTA GTACTGGAGTATTTATTCATCTATTAAAATGTTATGTTTCTCAGAAAAAAACCTCGTGGCGAATTCTTGGCCTC GAGGGCCAAAT

MASGSAGKPTGEAASPAPASAIGGASSQPRKRLVSVCDHCKGKMQLVADLLLLSSEARPVLFEGPASSGAGAESF EQCRDTIIARTKGLSILTHDVQSQLNMGRFGEAGDSLVELGDLVVSLTECSAHAAYLAAVATPGAQPAQPGLVDR YRVTRCRHEVEQGCAVLRATPLADMTPQLLLEVSQGLSRNLKFLTDACALASDKSRDRFSREQFKLGVKCMSTSA SALLACVREVKVAPSELARSRCALFSGPLVQAVSALVGFATEPQFLGRAAAVSAEGKAVQTAILGGAMSVVSACV LLTQCLRDLAQHPDGGAKMSDHRERLRNSACAVSEGCTLLSQALRERSSPRTLPPVNSNSVN

4659/6881 FIGURE 4298A

GAGCTAGCGCTCAAGCAGAGCCCAGCGCGGTGCTATCGGACAGAGCCTGGCGAGCGCAAGCGGCGCGGGGAGCCA GCGGGGCTGAGCGCCAGGGTCTGAACCCAGATTTCCCAGACTAGCTACCACTCCGCTTGCCCACGCCCCGGG AGCTCGCGGCGCCTGGCGGTCAGCGACCAGACGTCCGGGGCCGCTGCGCTCCTGGCCCGCGAGGCGTGACACTGT TGCTGACCATCAGCTGGCTCACTCTGACCTGCTTCCCTGGGGCCACATCCACAGTGGCTGCTGGGTGCCCTGACC AGAGCCCTGAGTTGCAACCCTGGAACCCTGGCCATGACCAAGACCACCATGTGCATATCGGCCAGGGCAAGACAC ACGAGCCGATTGTTTTGCGAACCCGGCACATCCTGATTGACAACGGAGGAGAGCTGCATGCTGGGAGTGCCCTCT GCCCTTTCCAGGGCAATTTCACCATCATTTTGTATGGAAGGGCTGATGAAGGTATTCAGCCGGATCCTTACTATG GTCTGAAGTACATTGGGGTTGGTAAAGGAGGCGCTCTTGAGTTGCATGGACAGAAAAAGCTCTCCTGGACATTTC TTATTGTTCATGTCATCGACCCCAAATCAGGCACAGTCATCCATTCTGACCGGTTTGACACCTATAGATCCAAGA AAGAGAGTGAACGTCTGGTCCAGTATTTGAACGCGGTGCCCGATGGCAGGATCCTTTCTGTTGCAGTGAATGATG AAGGTTCTCGAAATCTGGATGACATGGCCAGGAAGGCGATGACCAAATTGGGAAGCAAACACTTCCTGCACCTTG GATTTAGACACCCTTGGAGTTTTCTAACTGTGAAAGGAAATCCATCATCTTCAGTGGAAGACCATATTGAATATC CTTTGTCCAGTGAGTGGGTTCAAGACGTGGAGTGGACGGAGTGGTTCGATCATGATAAAGTATCTCAGACTAAAG GTGGGGAAAATTTCAGACCTCTGGAAAGCTCACCCAGGAAAAATATGCAATCGTCCCATTGATATACAGGCCA ACCGGGGCAGAGCCTGCCGGAGCTACCGTGTACGGTTCCTCTGTGGGAAGCCTGTGAGGCCCAAACTCACAGTCA CCATTGACACCAATGTGAACAGCACCATTCTGAACTTGGAGGATAATGTACAGTCATGGAAACCTGGAGATACCC TGGTCATTGCCAGTACTGATTACTCCATGTACCAGGCAGAAGAGTTCCAGGTGCTTCCCTGCAGATCCTGCGCCC CCAACCAGGTCAAAGTGGCAGGGAAACCAATGTACCTGCACATCGGGGAGGAGATAGACGGCGTGGACATGCGGG CGGAGGTTGGGCTTCTGAGCCGGAACATCATAGTGATGGGGGGAGATGGAGGACAAATGCTACCCCTACAGAAACC ACATCTGCAATTTCTTTGACTTCGATACCTTTGGGGGCCCACATCAAGTTTGCTCTGGGATTTAAGGCAGCACACT TGGAGGGCACGGAGCTGAAGCATATGGGACAGCAGCTGGTGGGTCAGTACCCGATTCACTTCCACCTGGCCGGTG GCGTCACAGTCCATGGCTCCAATGGCTTGTTGATCAAGGACGTTGTGGGCCTATAACTCTTTGGGCCACTGCTTCT TCACGGAAGATGGGCCGGAGGAACGCAACACTTTTGACCACTGTCTTGGCCTCCTTGTCAAGTCTGGAACCCTCC TCCCCTCGGACCGTGACAGCAAGATGTGCAAGATGATCACAGAGGACTCCTACCCGGGGTACATCCCCAAGCCCA GGCAAGACTGCAATGCTGTGTCCACCTTCTGGATGGCCAATCCCAACAACAACCTCATCAACTGTGCCGCTGCAG GATCTGAGGAAACTGGATTTTGGTTTATTTTTCACCACGTACCAACGGGCCCCTCCGTGGGAATGTACTCCCCAG GTTATTCAGAGCACATTCCACTGGGAAAATTCTATAACAACCGAGCACATTCCAACTACCGGGCTGGCATGATCA TAGACAACGGAGTCAAAACCACCGAGGCCTCTGCCAAGGACAAGCGGCCGTTCCTCTAATCATCTCTGCCAGAT ACAGCCCTCACCAGGACGCCGACCCGCTGAAGCCCCGGGAGCCGGCCATCATCAGACACTTCATTGCCTACAAGA ACCAGGACCACGGGGCCTGGCTGCGGGGGGGATGTGTGGCTGGACAGCTGCCGGTTTGCTGACAATGGCATTG TTGGCGAGAGTGGCAACGTGGGGACGGAAATGATGGACAATAGGATCTGGGGCCCTGGCGGCTTGGACCATAGCG GAAGGACCCTCCCTATAGGCCAGAATTTTCCAATTAGAGGAATTCAGTTATATGATGGCCCCATCAACATCCAAA ACTGCACTTTCCGAAAGTTTGTGGCCCTGGAGGGCCGGCACACCAGCGCCCTGGCCTTCCGCCTGAATAATGCCT GGCAGAGCTGCCCCCATAACAACGTGACCGGCATTGCCTTTGAGGACGTTCCGATTACTTCCAGAGTGTTCTTCG TTCCCGACTGGAGAGGGGCCATTTGCAGTGGGTGCTATGCACAGATGTACATTCAAGCCTACAAGACCAGTAACC TGCGAATGAAGATCATCAAGAATGACTTCCCCAGCCACCCTCTTTACCTGGAGGGGGGCGCTCACCAGGAGCACCC ATTACCAGCAATACCAACCGGTTGTCACCCTGCAGAAGGGCTACACCATCCACTGGGACCAGACGGCCCCCGCCG AACTCGCCATCTGGCTCATCAACTTCAACAAGGGCGACTGGATCCGAGTGGGGCTCTGCTACCCGCGAGGCACCA CATTCTCCATCCTCTGGATGTTCACAATCGCCTGCTGAAGCAAACGTCCAAGACGGGCGTCTTCGTGAGGACCT

4660/6881 FIGURE 4298B

TGCAGATGGACAAAGTGGAGCAGAGCTACCCTGGCAGGAGCCACTACTACTGGGACGAGGACTCAGGGCTGTTGT TCCTGAAGCTGAAAGCTCAGAACGAGAGAGAAGTTTGCTTTCTGCTCCATGAAAGGCTGTGAGAGGATAAAGA TTAAAGCTCTGATTCCAAAGAACGCAGGCGTCAGTGACTGCACAGCCACAGCTTACCCCAAGTTCACCGAGAGGG CTGTCGTAGACGTGCCGATGCCCAAGAAGCTCTTTGGTTCTCAGCTGAAAACAAAGGACCATTTCTTGGAGGTGA AGATGGAGAGTTCCAAGCAGCACTTCTTCCACCTCTGGAACGACTTCGCTTACATTGAAGTGGATGGGAAGAAGT ACCCCAGTTCGGAGGATGGCATCCAGGTGGTGGTGATTGACGGGAACCAAGGGCGCGTGGTGAGCCACACGAGCT TCAGGAACTCCATTCTGCAAGGCATACCATGGCAGCTTTTCAACTATGTGGCGACCATCCCTGACAATTCCATAG TGCTTATGGCATCAAAGGGAAGATACGTCTCCAGAGGCCCATGGACCAGAGTGCTGGAAAAGCTTGGGGCAGACA GGGGTCTCAAGTTGAAAGAGCAAATGGCATTCGTTGGCTTCAAAGGCAGCTTCCGGCCCATCTGGGTGACACTGG ACACTGAGGATCACAAAGCCAAAATCTTCCAAGTTGTGCCCATCCCTGTGGTGAAGAAGAAGAAGTTG<u>TGA</u>GGAC AGCTGCCGCCCGGTGCCACCTCGTGGTAGACTATGACGGTGACTCTTGGCAGCAGACCAGTGGGGGATGGCTGGG TCCCCCAGCCCTGCCAGCAGCTGCCTGGGAAGGCCGTGTTTCAGCCCTGATGGGCCAAGGGAAGGCTATCAGAG ACCCTGGTGCTGCCCCCTACTCAAGTGTCTACCTGGAGCCCCTGGGGCGGTGCTGGCCAATGCTGGAAA CATTCACTTTCCTGCAGCCTCTTGGGTGCTTCTCTCTCTATCTGTGCCTCTTCAGTGGGGGTTTGGGGACCATATC AGGAGACCTGGGTTGTGCTGACAGCAAAGATCCACTTTGGCAGGAGCCCTGACCCAGCTAGGAGGTAGTCTGGAG GGCTGGTCATTCACAGATCCCCATGGTCTTCAGCAGACAAGTGAGGGTGGTAAATGTAGGAGAAAAGAGCCTTGGC CTTAAGGAAATCTTTACTCCTGTAAGCAAGAGCCAACCTCACAGGATTAGGAGCTGGGGTAGAACTGGCTATCCT TGGGGAAGAGCCAAGCCCTGCCTCTGGCCGTGTCCACCTTTCAGGAGACTTTGAGTGGCAGGTTTGGACTTGGAC TAGATGACTCTCAAAGGCCCTTTTAGTTCTGAGATTCCAGAAATCTGCTGCATTTCACATGGTACCTGGAACCCA ACAGTTCATGGATATCCACTGATATCCATGATGCTGGGTGCCCCAGCGCACACGGGATGGAGAGGTGAGAACTAA ATCACAGAGAGGTAAAATGGAGGCCAGTGCCATTTCAGAGGGGAGGCTCAGGAAGGCTTCTTGCTTACAGGAATG TGCCTGCTGAAGCTGGTGACTACGGGGTCGCCCTTTGCTCACGTCTCTCTGGCCCACTCATGATGGAGAAGTGTG GTCAGAGGGGAGCAATGGGCTTTGCTGCTTATGAGCACAGAGGAATTCAGTCCCCAGGCAGCCCTGCCTCTGACT CCAAGAGGGTGAAGTCCACAGAAGTGAGCTCCTGCCTTAGGGCCTCATTTGCTCTTCATCCAGGGAACTGAGCAC AGGGGGCCTCCAGGAGACCCTAGATGTGCTCGTACTCCCTCGGCCTGGGATTTCAGAGCTGGAAATATAGAAAAT ATCTAGCCCAAAGCCTTCATTTTAACAGATGGGGAAAGTGAGCCCCCAAGATGGGAAAGAACCACACAGCTAAGG GAGGGCCTGGGGAGCCCCACCCTAGCCCTTGCTGCCACACCACATTGCCTCAACAACCGGCCCCAGAGTGCCCAG GCACTCCTGAGGTAGCTTCTGGAAATGGGGACAAGTCCCCTCGAAGGAAAGGAAATGACTAGAGTAGAATGACAG CTAGCAGATCTCTTCCCTCCTGCTCCCAGCGCACACAAACCCGCCCTCCCCTTGGTGTTGGCGGTCCCTGTGGCC TTCACTTGTTCACTACCTGTCAGCCCAGCCTGGGTGCACAGTAGCTGCAACTCCCCATTGGTGCTACCTGGCTC TCCTGTCTCTGCAGCTCTACAGGTGAGGCCCAGCAGAGGGAGTAGGGCTCGCCATGTTTCTGGTGAGCCAATTTG GCTGATCTTGGGTGTCTGAACAGCTATTGGGTCCACCCCAGTCCCTTTCAGCTGCTGCTTAATGCCCTGCTCTCT CCCTGGCCCACCTTATAGAGAGCCCCAAAGAGCTCCTGTAAGAGGGAGAACTCTATCTGTGGTTTATAATCTTGCA CGAGGCACCAGAGTCTCCCTGGGTCTTGTGATGAACTACATTTATCCCCTTTCCTGCCCCAACCACAAACTCTTT CCTTCAAAGAGGGCCTGCCTGGCTCCCTCCACCCAACTGCACCCATGAGACTCGGTCCAAGAGTCCATTCCCCAG GTGGGAGCCAACTGTCAGGGAGGTCTTTCCCACCAAACATCTTTCAGCTGCTGGGAGGTGACCATAGGGCTCTGC GGAGAGTTAAAATGACCTCATGTCCTTCTTGTCCACGGTTTTGTTGAGTTTTCACTCTTCTAATGCAAGGGTCTC ACACTGTGAACCACTTAGGATGTGATCACTTTCAGGTGGCCAGGAATGTTGAATGTCTTTGGCTCAGTTCATTTA AAAAAGATATCTATTTGAAAGTTCTCAGAGTTGTACATATGTTTCACAGTACAGGATCTGTACATAAAAGTTTCT TTCCTAAACCATTCACCAAGAGCCAATATCTAGGCATTTTCTTGGTAGCACAAATTTTCTTATTGCTTAGAAAAT TGTCCTCCTTGTTATTTCTGTTTGTAAGACTTAAGTGAGTTAGGTCTTTAAGGAAAGCAACGCTCCTCTGAAATG TCAGAGAAATAAAGAATTGTCTTAAATGTC

MGAAGRQDFLFKAMLTISWLTLTCFPGATSTVAAGCPDQSPELQPWNPGHDQDHHVHIGQGKTLLLTSSATVYSI HISEGGKLVIKDHDEPIVLRTRHILIDNGGELHAGSALCPFQGNFTIILYGRADEGIQPDPYYGLKYIGVGKGGA LELHGQKKLSWTFLNKTLHPGGMAEGGYFFERSWGHRGVIVHVIDPKSGTVIHSDRFDTYRSKKESERLVQYLNA VPDGRILSVAVNDEGSRNLDDMARKAMTKLGSKHFLHLGFRHPWSFLTVKGNPSSSVEDHIEYHGHRGSAAARVF KLFQTEHGEYFNVSLSSEWVQDVEWTEWFDHDKVSQTKGGEKISDLWKAHPGKICNRPIDIQATTMDGVNLSTEV VYKKGQDYRFACYDRGRACRSYRVRFLCGKPVRPKLTVTIDTNVNSTILNLEDNVQSWKPGDTLVIASTDYSMYQ AEEFOVLPCRSCAPNOVKVAGKPMYLHIGEEIDGVDMRAEVGLLSRNIIVMGEMEDKCYPYRNHICNFFDFDTFG GHIKFALGFKAAHLEGTELKHMGQQLVGQYPIHFHLAGDVDERGGYDPPTYIRDLSIHHTFSRCVTVHGSNGLLI KDVVGYNSLGHCFFTEDGPEERNTFDHCLGLLVKSGTLLPSDRDSKMCKMITEDSYPGYIPKPRQDCNAVSTFWM ANPNNNLINCAAAGSEETGFWFIFHHVPTGPSVGMYSPGYSEHIPLGKFYNNRAHSNYRAGMIIDNGVKTTEASA KDKRPFLSIISARYSPHQDADPLKPREPAIIRHFIAYKNQDHGAWLRGGDVWLDSCRFADNGIGLTLASGGTFPY DDGSKQEIKNSLFVGESGNVGTEMMDNRIWGPGGLDHSGRTLPIGQNFPIRGIQLYDGPINIQNCTFRKFVALEG RHTSALAFRLNNAWQSCPHNNVTGIAFEDVPITSRVFFGEPGPWFNQLDMDGDKTSVFHDVDGSVSEYPGSYLTK NDNWLVRHPDCINVPDWRGAICSGCYAQMYIQAYKTSNLRMKIIKNDFPSHPLYLEGALTRSTHYQQYQPVVTLQ KGYTIHWDQTAPAELAIWLINFNKGDWIRVGLCYPRGTTFSILSDVHNRLLKQTSKTGVFVRTLQMDKVEQSYPG RSHYYWDEDSGLLFLKLKAQNEREKFAFCSMKGCERIKIKALIPKNAGVSDCTATAYPKFTERAVVDVPMPKKLF GSQLKTKDHFLEVKMESSKQHFFHLWNDFAYIEVDGKKYPSSEDGIQVVVIDGNQGRVVSHTSFRNSILQGIPWQ LFNYVATIPDNSIVLMASKGRYVSRGPWTRVLEKLGADRGLKLKEOMAFVGFKGSFRPIWVTLDTEDHKAKIFQV **VPIPVVKKKKL**

 ${\tt AGTCCTGCTCTCCGCACGCCACCTTAGGCCCGCAGCCGTGCCGGGTGCTCTTCAGC} {\tt ATG} {\tt ICCTTCATCCCGGTGG}$ TAGGTGTGGCCATTGGCGACCAGATCCTGGACCTCAGCATCATCAAGCACCTCTTTACTGGTCCTGTCCTCTCCA AACACCAGGATGTCTTCAATCAGCCTACACTCAACAGCTTCATGGGCCTGGGTCAGGCTGCCTGGAAGGAGGCGA TCATCTCCCAGGCTTCTGCCACGATGCACCTTCCAGCCACCATAGGAGACTACACAGACTTCTATTCCTCTCGGC AGCATGCTACCAACGTCGGAATCATGTTCAGGGACAAGGAGAATGCGTTGATGCCAAATTGGCTGCACTTACCAG TGGGCTACCATGGCCGTGCCTCCTCTGTCGTGGTGTCTCGCACCCCAATCCGAAGGCCCATGGGACAGATGAAAC CTGATGACTCTAAGCCTCCCGTATATGGTGCCTGCAAGCTCTTGGACATGGACTGGAAATGGCTTTTTTTGTAG GCCCTGGAAACAGATTGGGAGAGCCGATCCCCATTTCCAAGGCCCATGAGCACATTTTTGGAATGGTCCTTATGA CCACTGTCTCTCCGTGGGTGGTGCCCATGGATGCTCTCATGCCCTTTGCTGTGCCCAACCCGAAGCAGGACCCCA GGCCCCTGCCGTATCTGTGCCATGACGAGCCCTACACATTTGACATCAACCTCTCTGTTAACCTGAAAGGAGAAG GAATGAGCCAGGCGGCTACCATATGCAAGTCCAATTTTAAGTACATGTACTGGACGATGCTGCAGCAGCTCACTC ACCACTCTGTCAACGGCTGCAACCTGCGGCCGGGGGACCTCCTGGCTTCTGGGACCATCAGCGGGCCGGAGCCAG AAAACTTCGGCTCCATGTTGGAACTGTCGTGGAAGGGAACGAAGCCCATAGACCTGGGGAATGGTCAGACCAGGA AGTTTCTGCTGGACGGGATGAAGTCATCATAACAGGGTACTGCCAGGGGGATGGTTACCGCATCGGCTTTGGCC AGTGTGCTGGAAAAGTGCTGCCTGCTCTCCTGCCATCATGAGATTTTCTCTGCTCTTCTGGAAACAAAGGGCTCA AGCACCCCTTTCAACCCTGTGACTGGGGTCCTCCCTCGGGCTGTAGGCCTGGTCCGCCATTCAGTGACAAATAAA GCCATTGTGCTCTGAGGCCTGC

MSFIPVAEDSDFPIHNLPYGVFSTRGDPRPRIGVAIGDQILDLSIIKHLFTGPVLSKHQDVFNQPTLNSFMGLGQ
AAWKEARVFLQNLLSVSQARLRDDTELRKCAFISQASATMHLPATIGDYTDFYSSRQHATNVGIMFRDKENALMP
NWLHLPVGYHGRASSVVVSGTPIRRPMGQMKPDDSKPPVYGACKLLDMELEMAFFVGPGNRLGEPIPISKAHEHI
FGMVLMNDWSARDIQKWEYVPLGPFLGKSFGTTVSPWVVPMDALMPFAVPNPKQDPRPLPYLCHDEPYTFDINLS
VNLKGEGMSQAATICKSNFKYMYWTMLQQLTHHSVNGCNLRPGDLLASGTISGPEPENFGSMLELSWKGTKPIDL
GNGQTRKFLLDGDEVIITGYCQGDGYRIGFGQCAGKVLPALLPS

FIGURE 4302

CCCGGGGGGTGGCGGGCCCAGGCCCTATTGGCCGGGAGCCGGACCCCGATTCCGACTGGGAGCCGGAGGAACGGG AGCTGCAGGAGGTGGAGAGGTACCGGCTTCTCCCCGGGCCCTCAGCTTGAAGCAGGGCCTCGTGCCCCGGCGCTC CAGGCCGCCCCTTGGCGCCGGGTGTCCTGCCGCTGCTTGCGCAGCGGCCCTTGTTTCTTCTTACCCGTTGTT AGGGGCGCAGCGTCAGGTGTTCAGCTCCCCGGGACCACTGGTCCCTTCATTAGTGACGTATTTCATCAGTTT AGAGAGTTCGGCATGCTTACAGGCAGTTATTGTTCTAGGTGTTAGCTTTCTGGGTGTACGGAGCAGCTCTAAGCC GGCAACATGGCCCGGTTGCCCTTGCGATCAAAGAGAAGAGGGCTGGGCGCTCCATGATTTAGCCTGAGGCTCTTC AAACATCCATTCTGCTTCCACGCATGGCTTCTGCCATTGGTTCTCTCCCCCAGCACCCTGAAACGACAGAAACA AGCAATCCGATTCCAGAAAATTCGGAGGCAA<u>ATC</u>GAGGCGCCTGGTGCCCCGCCCAGGACCCTGACGTGGGAAGC CATGGAGCAGATACGGTATTTACATGAGGAATTTCCAGAGTCCTGGTCAGTTCCCAGGTTGGCTGAAGGCTTTGA TGTCAGCACTGATGTGATCCGAAGAGTTTTAAAAAGCAAGTTTTTACCCACATTGGAGCAGAAGCTGAAGCAGGA TCAAAAAGTCCTTAAGAAAGCTGGGCTTGCCCACTCGCTGCAGCACCTCCGGGGCTCTGGAAATACCTCAAAGCT GCTCCCTGCAGGCCACTCTGTATCAGGCTCTTTGCTTATGCCAGGGCATGAAGCCTCATCTAAAGACCCAAATCA AGAAATCCAGGACCTGGAGGAGAGCTTTGTGCCTGTTGCTGCACCCCTAGGTCATCCAAGAGAGCTGCAGAAGTA CTCCAGTGATTCTGAGAGCCCCAGAGGAACTGGCAGTGGTGCGTTGCCAAGTGGTCAGAAGCTGGAGGAGTTGAA GGCAGAGGAGCCAGATAACTTCAGCAGCAAAGTAGTGCAGAGGGGCCGAGAGTTCTTTGACAGCAACGGGAACTT $\texttt{CCTGTACAGAATT} \underline{\textbf{TGA}} \underline{\textbf{GTCGGGGGCTTGGCTTATGGAGATGCCTCGTGAAACACAGCTGGGCAAGTATTAATGTAT}$ ATGGAACAGCCTGGATTTCTGCATATGGATAAGCCACCTTGGAATAGGAAGAGGTGTTGAGCCTGGACTGTGGGA GGAAAGAGCTGCGTGGATAGATTCAAACTTCCTGTGGTAGTGCTCCCAGTCTGACCTCTGTAGACCTTCAGTACT CACTCTTCTTGCTTAGGCTCTCTGTGTTGAAAGCCATCCCGTGTTGCATGTTGTTACAATTTTCTGTGATA CTTGCAATTTATGTTTGAGAAGAAGTGAAAAGTTTGCCTTCTGACCTCATTTCCTTCTTGATCAGTGAACACTAA AAAA

FIGURE 4303

MEAPGAPPRTLTWEAMEQIRYLHEEFPESWSVPRLAEGFDVSTDVIRRVLKSKFLPTLEQKLKQDQKVLKKAGLA HSLQHLRGSGNTSKLLPAGHSVSGSLLMPGHEASSKDPNHSTALKVIESDTHRTNTPRRRKGRNKEIQDLEESFV PVAAPLGHPRELQKYSSDSESPRGTGSGALPSGQKLEELKAEEPDNFSSKVVQRGREFFDSNGNFLYRI WO 2004/030615 PCT/US2003/028547

4666/6881 FIGURE 4304

WO 2004/030615 PCT/US2003/028547

4668/6881 FIGURE 4306

MGGSGSRLSKELLAEYQDLTFLTKQEILLAHRRFCELLPQEQRTVESSLRAQVPFEQILSLPELKANPFKERICR VFSTSPAKDSLSFEDFLDLLSVFSDTATPDIKSHYAFRIFDFDDDGTLNREDLSRLVNCLTGEGEDTRLSASEMK QLIDNILEESDIDRDGTINLSEFQHVISRSPDFASSFKIVL

4669/6881 FIGURE 4307A

GCTCTGCCCAAGCCGAGGCTGCGGGGCCGCCGCGGGAGGACTGCGGTGCCCCGCGGAGGGGCTGAGTTTGC CAGGGCCCACTTGACCCTGTTTCCCACCTCCCGCCCCCCAGGTCCGGAGGCGGGGGCCCCCGGGGCGACTCGGGG $\verb|CCTGCTCTCCGA| \underline{\textbf{ATG}} \\ \texttt{CTGCGCACCGCGATGGGCCTGAGGAGCTGGCTCGCCGCCCCATGGGGCGCGCTGCCGCCT}\\$ CGGCCACCGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCAGCCGCCGCCTCCGACCTGGGCGCTCAGCCCC CGGATCAGCCTGCCTCTGGGCTCTGAAGAGCGGCCATTCCTCAGATTCGAAGCTGAACACCTCTCCAACTACACA GCCCTTCTGCTGAGCAGGGATGGCAGGACCCTGTACGTGGGTGCTCGAGAGGCCCTCTTTGCACTCAGTAGCAAC CTCAGCTTCCTGCCAGGCGGGAGTACCAGGAGCTGCTTTGGGGTGCAGACGCAGAGAAAACAGCAGTGCAGC TTCAAGGGCAAGGACCCACAGCGCGACTGTCAAAACTACATCAAGATCCTCCTGCCGCTCAGCGGCAGTCACCTG TTCACCTGTGGCACAGCAGCCTTCAGCCCCATGTGTACCTACATCAACATGGAGAACTTCACCCTGGCAAGGGAC GAGAAGGGGAATGTCCTCCTGGAAGATGGCAAGGGCCGTTGTCCCTTCGACCCGAATTTCAAGTCCACTGCCCTG GTGGTTGATGGCGAGCTCTACACTGGAACAGTCAGCAGCTTCCAAGGGAATGACCCGGCCATCTCGCGGAGCCAA AGCCTTCGCCCCACCAGACCGAGAGCTCCCTCAACTGGCTGCAAGACCCAGCTTTTGTGGCCTCAGCCTACATT $\tt CCTGAGAGCCTGGGCAGCTTGCAAGGCGATGATGACAAGATCTACTTTTCTTCAGCGAGACTGGCCAGGAATTT$ GAGTTCTTTGAGAACACCATTGTGTCCCGCATTGCCCGCATCTGCAAGGGCGATGAGGGTGGAGAGCGGGTGCTA CAGCAGCGCTGGACCTCCTTCCTCAAGGCCCAGCTGCTGTGCTCACGGCCCGACGATGGCTTCCCCTTCAACGTG CAGTGGCACAGGGGAACTACAGAAGGCTCTGCCGTCTGTGTCTTCACAATGAAGGATGTGCAGAGAGTCTTCAGC GGAGCGTGCATCACCAACAGTGCCCGGGAAAGGAAGATCAACTCATCCCTGCAGCTCCCAGACCGCGTGCTGAAC TTCCTCAAGGACCACTTCCTGATGGACGGCCAGGTCCGAAGCCGCATGCTGCTGCTGCAGCCCCAGGCTCGCTAC CAGCGCGTGGCTGTACACCGCGTCCCTGGCCTGCACCACACCTACGATGTCCTCTTCCTGGGCACTGGTGACGGC CGGCTCCACAAGGCAGTGAGCGTGGGCCCCCGGGTGCACATCATTGAGGAGCTGCAGATCTTCTCATCGGGACAG CCCGTGCAGAATCTGCTCCTGGACACCCACAGGGGGCTGCTGTATGCGGCCTCACACTCGGGCGTAGTCCAGGTG CCCATGGCCAACTGCAGCCTGTACAGGAGCTGTGGGGGACTGCCTCCTCGCCCGGGACCCCTACTGTGCTTGGAGC GGCTCCAGCTGCAAGCACGTCAGCCTCTACCAGCCTCAGCTGGCCACCAGGCCGTGGATCCAGGACATCGAGGGA GCCAGCGCCAAGGACCTTTGCAGCGCGTCTTCGGTTGTGTCCCCGTCTTTTGTACCAACAGGGGAGAAGCCATGT GAGCAAGTCCAGCTCAACACAGTGAACACTTTGGCCTGCCGGCTCCTCTCCAACCTGGCGACCCGACTC TGGCTACGCAACGGGGCCCCGTCAATGCCTCGGCCTCCTGCCACGTGCTACCCACTGGGGACCTGCTGGTG GGCACCCAACAGCTGGGGGAGTTCCAGTGCTGGTCACTAGAGGAGGGCTTCCAGCAGCTGGTAGCCAGCTACTGC CCAGAGGTGGTGGAGGACGGGGTGCCAGACCAAACAGATGAGGGTGGCAGTGTACCCGTCATTATCAGCACATCG CGTGTGAGTGCACCAGCTGGTGGCAAGGCCAGCTGGGGTGCAGACAGGTCCTACTGGAAGGAGTTCCTGGTGATG TGCACGCTCTTTGTGCTGCCGTGCTGCTCCCAGTTTTATTCTTGCTCTACCGGCACCGGAACAGCATGAAAGTC TTCCTGAAGCAGGGGGAATGTGCCAGCGTGCACCCCAAGACCTGCCCTGTGGTGCTGCCCCTGAGACCCGCCCA CTCAACGGCCTAGGGCCCCCTAGCACCCCGCTCGATCACCGAGGGTACCAGTCCCTGTCAGACAGCCCCCCGGGG TCCCGAGTCTTCACTGAGTCAGAGAGAGGCCACTCAGCATCCAAGACAGCTTCGTGGAGGTATCCCCAGTGTGC CCCCGGCCCCGGGTCCGCCTTGGCTCGGAGATCCGTGACTCTGTGGTGTGAGAGCTGACTTCCAGAGGACGCTGC CCTGGCTTCAGGGGCTGTGAATGCTCGGAGAGGGTCAACTGGACCTCCCCTCCGCTCTGCTCTTCGTGGAACACG TGCTCCTTATGTAAACTGAGCCCTTTGTTTAAAAAACAATTCCAAATGTGAAACTAGAATGAGAGGGAAGAGATA GCATGCATGCAGCACACGCTGCTCCAGTTCATGGCCTCCCAGGGGTGCTGGGGATGCATCCAAAGTGGTTG TCTGAGACAGAGTTGGAAACCCTCACCAACTGGCCTCTTCACCTTCCACATTATCCCGCTGCCACCGGCTGCCCT GTCTCACTGCAGATTCAGGACCAGCTTGGGCTGCGTTCTGCCTTGCCAGTCAGCCGAGGATGTAGTTGTTG CTGCCGTCGTCCCACCACCTCAGGGACCAGAGGGCTAGGTTGGCACTGCGGCCCTCACCAGGTCCTGGGCTCGGA CCCAACTCCTGGACCTTTCCAGCCTGTATCAGGCTGTGGCCACACGAGAGGACAGCGCGGAGCTCAGGAGAGTTT

4670/6881 FIGURE 4307B

 ${\tt GTCCTCTCCCCAGTCCCCAGTTCACCTCCATCCCTCACCTTCCTCCACTCTAAGGGATATCAACACTGCCCAGC} \\ {\tt ACAGGGGCCCTGAATTTATGTGGTTTTTATACATTTTTTAATAAGATGCACTTTATGTCATTTTTTAATAAAGTC} \\ {\tt TGAAGAATTACTGTTT} \\$

MLRTAMGLRSWLAAPWGALPPRPPLLLLLLLLLLLQPPPPTWALSPRISLPLGSEERPFLRFEAEHISNYTALLL SRDGRTLYVGAREALFALSSNLSFLPGGEYQELLWGADAEKKQQCSFKGKDPQRDCQNYIKILLPLSGSHLFTCG TAAFSPMCTYINMENFTLARDEKGNVLLEDGKGRCPFDPNFKSTALVVDGELYTGTVSSFQGNDPAISRSQSLRP TKTESSLNWLQDPAFVASAYIPESLGSLQGDDDKIYFFFSETGQEFEFFENTIVSRIARICKGDEGGERVLQQRW TSFLKAQLLCSRPDDGFPFNVLQDVFTLSPSPQDWRDTLFYGVFTSQWHRGTTEGSAVCVFTMKDVQRVFSGLYK EVNRETQQWYTVTHPVPTPRPGACITNSARERKINSSLQLPDRVLNFLKDHFLMDGQVRSRMLLLQPQARYQRVA VHRVPGLHHTYDVLFLGTGDGRLHKAVSVGPRVHIIEELQIFSSGQPVQNLLLDTHRGLLYAASHSGVVQVPMAN CSLYRSCGDCLLARDPYCAWSGSSCKHVSLYQPQLATRPWIQDIEGASAKDLCSASSVVSPSFVPTGEKPCEQVQ FQPNTVNTLACPLLSNLATRLWLRNGAPVNASASCHVLPTGDLLLVGTQQLGEFQCWSLEEGFQQLVASYCPEVV EDGVADQTDEGGSVPVIISTSRVSAPAGGKASWGADRSYWKEFLVMCTLFVLAVLLPVLFLLYRHRNSMKVFLKQ GECASVHPKTCPVVLPPETRPLNGLGPPSTPLDHRGYQSLSDSPPGSRVFTESEKRPLSIQDSFVEVSPVCPRPR VRLGSEIRDSVV

4672/6881 FIGURE 4309A

GGTGATTGTGTTGCTGCTGCTGCTGAAGAGGACAAAGCTGAAGATGATGTAGTGTTTTACTTGGTATTT TTGGGTTCCACCCTCCGTCACTGTACAAGTACTCGGAAGGTCAGTTCTGATACATTGGAGACCATTGCTCCTGGT CATGATTGTTGTGAAACAGTGAAGGTGCAGCTCTGTGCTTCCAAAGAGGGCCCTTCCCGTGTTTTGTGGTGGCTGAA GAAGACTTTCATTTCGTCCAGGATGAAGCGTATGATGCAGCTCAATTCCTAGCAACCAGTGCTGGAAATCAGCAG GCTTTGAACTTTACCCGTTTTCTTGACCAGTCAGGACCCCCATCTGGGGATGTGAATTCCCTTGATAAGAAGTTG GTGCTGGCATTCAGGCACCTGAAGCTGCCCACGGAGTGGAATGTATTGGGGACAGATCAGAGTTTGCATGATGCT GGCCCGCGAGAGACATTGATGCATTTTGCTGTGCGGCTGGGACTGCTGAGGTTGACGTGGTTCCTGTTGCAGAAG CCAGGTGGCCGCGGAGCTCTCAGTATCCACAACCAGGAAGGGCGACGCCTGTGAGCTTGGCCTTGGAGCGAGGCT ATCACAAGCTGCACCAGCTTCTAACCGAGGAGAATGCTGGAGAACCAGACTCCTGGAGCAGTTTATCCTATGAAA TACCGTATGGAGACTGTTCTGTGAGGCATCATCGAGAGTTGGACATCTATACATTAACCTCTGAGTCTGATTCAC ATCATGAACACCCATTTCCTGGAGACGGTTGCACTGGACCAATTTTTAAACTTATGAACATCCAACAGCAACTAA TGAAAACAAACCTCAAGCAGATGGACAGTCTTATGCCCTTAATGATGACAGCACAGGATCCTTCCAGTGCCCCAG $\tt CTATTGTGGACTCTGGAACTGTATCTGATCAAGACAGCTGCCTTCAGAGCTTGCCTGATTGTGGAGTAAAGGGCA$ CGGÄAGGCCTTTCGTCCTGTGGAAACAGAAATGAAGAAACTGGAACAAAATCTTCTGGAATGCCCACAGACCAGG AGTCCCTGAGCAGTGGAGATGCTGTGCTTCAGAGAGACTTGGTCATGGAGCCAGGCACAGCCCAGTATTCCTCTG GAGGTGAACTGGGAGGCATTTCAACAACAAATGTCAGTACCCCAGACACTGCAGGGGAAATGGAACATGGGCTCA ATATTGGCACAGCTGGAGCCTCTGACGTGCACGTCACAAGTAAGCCTGTGGATAAAATCAGTGTTCCAAACTGTG CTGAAAAAACAGCAGAAACGGAAACTTCACGAAGTCGTGAGGAGAGTGCTGATGCTCCAGTAGATCAGAATTCTG TGGTGATTCCAGCTGCTGCAAAAGACAAGATTTCAGATGGATTAGAACCTTATACTCTCTTAGCAGCAGGCATAG GTGAGGCAATGTCACCCTCAGATTTAGCCCTTCTTGGGCTGGAAGAAGATGTAATGCCACACCAGAACTCAGAAA CAAATTCATCTCATGCTCAAAGCCAAAAGGGCAAATCCTCACCCATTTGTTCTACAACTGGAGACGATAAACTTT GTGCAGACTCTGCATGTCAACAGAACACAGTGACTTCTAGTGGCGATTTGGTTGCAAAACTGTGTGATAACATAG TTAGCGAGTCCGAAAGCACCACCAGCAACCCAGCTCACAAGATCCACCGATGCCTCCCACTGTGAAGACC CACAGGCTCATACAGTCACCTCTGACCCTGTAAGGGATACCCAGGAACGTGCGGATTTTTGTCCTTTCAAAGTGG TGGATAACAAAGGCCAACGAAAAGATGTGAAACTAGATAAACCTTTAACAAATATGCTTGAGGTGGTTTCACATC CACATCCAGTTGTCCCTAAAATGGAGAAAGAACTGGTGCCAGACCAGGCAGTAATATCAGACAGTACTTTCTCTC GAACAGCAACTCCTGAACTACATACAGCTACAGATTATAGAGATGGCCCAGATGGAAATTCGAATGAGCCTGATA ATACCAGTCTCACAGGACTTGGTGGAGAGCATGAGGGTCCCGCCCCTCCAGCAATCCCAGAAGCTCTGAATATCA AGGGGAACACTGACTCTTCCCTGCAAAGTGTGGGTAAGGCCACTTTGGCTTTAGATTCAGTTTTGACTGAAGAAG GAAAACTTCTGGTGGTTTCAGAAAGCTCTGCAGCTCAGGAACAAGATAAGGATAAAGCGGTGACCTGTTCCTCTA AATTTCATGAAAAATCAATCTCAGCTGACTGTGCCAAGGACAAAGCACTTCAGCTAAGTAATTCACCGGGTGCAT CCTCTGCCTTTCTTAAGGCAGAACTGAACATAACAAGGAAGTGGCCCCACAAGTCTCACTGCTGACTCAAGGTG GGGCTGCCCAGAGCCTGGTGCCACCAGGAGCAAGTCTGGCCACAGAGTCAAGGCAGGAAGCCTTGGGGGCAGAGC ACAACAGCTCCGCTCTGTTGCCATGTCTGTTGCCAGATGGGTCTGATGGGTCCGATGCTCTTAACTGCAGTCAGC CTTCTCCTCTGGATGTTGGAGTGAAGAACACTCAATCCCAGGGAAAAACTAGTGCCTGTGAGGTGAGTGGAGATG TGACGGTGGATGTTACAGGGGTTAATGCTCTACAAGGTATGGCTGAGCCCAGAAGAGAGAATATATCACACAACA CCCAAGACATCCTGATTCCAAACGTCTTGTTGAGCCAAGAGAAGAATGCCGTTCTAGGTTTGCCAGTGGCTCTAC AGGACAAAGCTGTGACTGACCCACAGGGAGTTGGAACCCCAGAGATGATACCTCTTGATTGGGAGAAAGGGAAGC TGGAGGGAGCAGACCACAGCTGTACCATGGGTGACGCTGAGGAAGCCCAAATAGACGATGAAGCACATCCTGTCC TACTGCAGCCTGTTGCCAAGGAGCTCCCCACAGACATGGAGCTCTCAGCCCATGATGATGGGGCCCCAGCTGGTG

4673/6881 FIGURE 4309B

TGAGGGAAGTCATGCGAGCCCCGCCTTCAGGCAGGGAAAGGAGCACTCCCTCTCTACCTTGCATGGTCTCTGCCC AGGACGCACCTCTGCCTAAGGGGGCAGACTTGATAGAGGAGGCTGCCAGCCGTATAGTGGATGCTGTCATCGAAC AAGTCAAGGCCGCTGGAGCACTGCTTACTGAGGGGGGGGCCTGTCACATGTCACTGTCCAGCCCTGAGTTGGGTC CTCTCACTAAAGGACTAGAGAGTGCTTTTACAGAAAAAGTGAGTACTTTCCCACCTGGGGAGAGCCTACCAATGG GCAGTACTCCTGAGGAAGCCACGGGGAGCCTTGCAGGATGTTTTGCTGGAAGGGAGGAGCCAGAAGATCATTT TACCTGTCCAGGGGCCTGAGCCAGCAGCAGAAATGCCAGACGTGAAAGCTGAAGATGAAGTGGATTTTAGAGCAA GTTCAATTTCTGAAGAAGTGGCTGTAGGGAGCATAGCTGCTACACTGAAGATGAAGCAAGGCCCAATGACCCAGG CGATAAACCGAGAAAACTGGTGTACAATAGAGCCATGCCCTGATGCAGCATCTCTTCTGGCTTCCAAGCAGAGCC CAGAATGTGAGAACTTCCTGGATGTTGGACTGGGCAGAGAGTGTACCTCAAAACAAGGTGTACTTAAAAGAGAAT CTGGGAGTGATTCTGACCTCTTTCACTCACCCAGTGATGACATGGACAGCATCATCTTCCCAAAGCCAGAGGAAG AGCATTTGGCCTGTGATATCACCGGATCCAGTTCATCCACCGATGACACGGCTTCACTGGACCGACATTCTTCTC ATGGCAGTGATGTGTCTCTCCCAGATTTTAAAGCCAAACAGGTCAAGAGATCGGCAAAGCCTTGATGGATTCT ACAGCCATGGGATGGGAGCTGAGGGAGAAAGTGAGAGTGAGCCTGCTGACCCAGGCGACGTGGAGGAGGAGGAGGA AGATGGACAGTATCACTGAAGTGCCTGCAAACTGCTCTGTCCTAAGGAGCTCCATGCGCTCTCTTTCTCCCTTCC GGAGGCACAGCTGGGGGCCTGGGAAAAATGCAGCCAGCGATGCAGAAATGAACCACCGGAGTATGAGCTGGTGCC CCTCTGGTGTGCAGTACTCTGCCTGGCCTGAGTGCTGACTTTAATTACAGAAGTTTCAGTCTAGAAGGCTTGACAG GAGGAGCTGGTGTCGGAAACAAGCCATCCTCATCTCTAGAAGTAAGCTCTGCAAATGCCGAAGAGCTCAGACACC CATTCAGTGGTGAGGAACGGGTTGACTCTTTGGTGTCACTTTCAGAAGAGGATCTGGAGTCAGACCAGAGAGAAC ATAGGATGTTTGATCAGCAGATATGTCACAGATCTAAGCAGCAGTGTTAATTACTGTACATCAGCCATTTCCT CTCCATTGACAAAATCCATCTCATTAATGACAATCAGCCATCCTGGATTGGACAATTCACGGCCCTTCCACAGTA CCTTCCACAATACCAGTGCTÄATCTGACTGAGAGTATAACAGAAGAGAACTATAATTTCCTGCCACATAGCCCCT AAGATAAGAAGACTGTCAACGGGCACACTTTCAGTTCCATTCCTGTTGTGGGTCCCATCAGCTGTAGCCAGTGTA TGAAGCCCTTCACCAACAAAGATGCCTATACTTGTGCAAATTGCAGTGCTTTTTGTCCACAAAGGCTGCCGAGAAA GTCTAGCCTCCTGTGCAAAGGTCAAAATGAAGCAGCCCAAAGGGAGCCTTCAGGCACATGACACATCATCACTGC CCACGGTCATTATGAGAAACAAGCCCTCACAGCCCAAGGAGCGTCCTCGGTCCGCAGTCCTCCTGGTGGATGAAA CCGCTACCACCCAATATTTGCCAATAGACGATCCCAGCAGAGTGTCTCGCTCTCCAAAAGTGTCTCCATACAGA ACATTACTGGAGTTGGCAATGATGAGAACATGTCAAACACCTGGAAATTCCTGTCTCATTCAACAGACTCACTAA AACTACTGGGAGACTTTGAGATTGAGTCCAAACAGCTGGAAGCAGAGTCTTGGAGTCGGATAATAGACAGCAAGT ATGTCCGCACTCTCAAGATCATGAGTGGTGTGTACAGCCAGGGGATGATGGCGGATCTGCTTTTTGAGCAGCAGA TGGTAGAAAAGCTGTTCCCCTGTTTGGATGAGCTGATCAGTATCCATAGCCAATTCTTCCAGAGGATTCTGGAGC GGAAGAAGGAGTCTCTGGTGGATAAAAGTGAAAAGAACTTTCTCATCAAGAGGATAGGGGATGTGCTTGTAAATC AGTTTTCAGGTGAGAATGCAGAACGTTTAAAGAAGACATATGGCAAGTTTTGTGGGCAACATAACCAGTCTGTAA ACTACTTCAAAGACCTTTATGCCAAGGATAAGCGTTTTCAAGCCTTTGTAAAGAAGAAGATGAGCAGTTCAGTTG TTAGAAGGCTTGGAATTCCAGAGTGCATATTGCTTGTAACTCAGCGGATTACCAAGTACCCAGTTTTATTCCAAA GAATATTGCAGTGTACCAAAGACAATGAAGTGGAGCAGGAAGATCTAGCACAGTCCTTGAGCCTGGTGAAGGATG ATAGCAAGTCAATCATGAGGATGAAGAGTGGTCAGATGTTTGCCAAGGAAGATTTGAAACGGAAGAAGCTTGTAC GTGATGGGAGTGTGTTTCTGAAGAATGCAGCAGGAAGGTTGAAAGAGGTTCAAGCAGTTCTTCTCACTGACATTT TAGTTTTCCTTCAAGAAAAAGACCAGAAGTACATCTTTGCATCATTGGACCAGAAGTCAACAGTGATCTCTTTAA AGAAGCTGATTGTGAGAGAAGTGGCACATGAGGAGAAAGGTTTATTCCTGATCAGCATGGGGATGACAGATCCAG AGATGGTAGAAGTCCATGCCAGCTCCAAAGAGGAACGAAACAGCTGGATTCAGATCATTCAGGACACAATCAACA $\verb|CCCTGAACAGAGATGAAGAATTCCTAGTGAGAATGAGGAAAAAGAAAATGTTGGACACCAGAGCCC|$ GAGAATTAAAAGAACAACTTCACCAGAAGGACCAAAAAATCCTACTCTTGTTGGAAGAAGAAGAGATGATTTTCC GGGACATGGCTGAGTGCAGCACCCCTCTCCCAGAGGATTGCTCCCCAACACATAGCCCTAGAGTTCTCTTCCGCT

FIGURE 4309C

CCAACACAGAAGAGGCTCTCAAAGGAGGACCTTTAATGAAAAGTGCAATAAATGAGGTGGAGATCCTTCAGGGTT TTTCCCTGCCCGGAGAGCCAGAGACCTTTGGAGGATTTGACAGCCATCAGATGAATGCTTCAAAAGGAGGCGAGA AGGAAGAGGGAGATGATGGCCAAGATCTTAGGAGAACGGAATCAGATAGTGGCCTAAAAAAGGGTGGAAATGCTA ACCTGGTATTTATGCTTAAAAGAAACAGTGAGCAGGTTGTCCAGAGCGTTGTTCATCTCTACGAGCTCCTCAGCG CTCTGCAGGGTGTGGTGCTGCAGCAGGACAGCTACATTGAGGACCAGAAACTGGTGCTGAGCGAGAGGGCGCTCA CTCGCAGCTTGTCCCGCCCGAGCTCCCTCATTGAGCAGGAGAGCAGCCCTGGAGAAGCAGCGCCAGGACC TGGCCAACCTGCAGAAGCAGCCCAGTACCTCGAGGAGAAGCCGCAGGCGCGAGCGTGAGTGGGAAGCTCGTG AGAGGGAGCTGCGGGAGCCGGAGGCCCTCCTGGCCCAGCGCGAGGAGGAGGTGCAGCAGGACCAGGACCTGG AAAAGGAGCGGAGGAGCTCCAGCAGAAGAAGGGCACATACCAGTATGACCTGGAGCGACTGCGTGCTGCCCAGA TGTGTCAGGTTTCCCATCCACATACCAAGCTGATGAGGATCCCATCGTTCTTCCCCAGTCCTGAGGAGCCCCCCT CGCCATCTGCACCTTCCATAGCCAAATCAGGGTCATTGGACTCAGAACTTTCAGTGTCCCCAAAAAGGAACAGCA GGCAGAGCCAGGCCCTGCGTCCACCTCTGCCTCTACCCGCCTGTTTGGGTTAACAAAGCCAAAGGAAAAGAAGG AGAAAAAAAGAAGAACAAAACCAGCCGCTCTCAGCCCGGTGATGGTCCCGCGTCAGAAGTATCAGCAGAGGTG AAGAGATCTTCTGCTGACCCTCTTCCTCTGCTGAGGCAGCTGCCTCCTGATCCTGGCCAGCCCACCTCTCCTG CTGTCCCGGGTGCACAAGTCTCTTACACTGGACGCCCACTGCTCCTCAGCGTCCAGTCCTCCTGGGCGGCCCCA GGTCCTGGACAATAAGCAACAGATGATATTGAGTGTCGGGTGGGGAAGGAGGCCCAGACTCTGCTTCGGCCATGA TTTGTGACTGCCCAGGACTCTCAGGTTGGGCTGGCCCTACTCAGGATTACACTGAAAGTAATGGCCTCGTAAGTA CAGGTGATGGTTTTGGACACGTCAGGAATTCCTAAAGGCTGAAAGAGTGTATCCAAGTAAGGTCTGAACCTCCGA TGTCTGCATATACACACGGGGAATGCCAGAAGAAGGCCCAGTCTGCACCAGGCGTCTGGTCAACTTAGCACAAGG GCAGTGCCTGGACGGACCCGGAGCCCCCGCATATCAGCAGTTCACCCAGTACTCCTCAGAGACTGGTTTCCCTCT AAACCCATCCCGGGCACATACCACCCGTGTTTTGCATGTATTTCTCATTTCATTTTAGGGATGACAAACATTTGT GAAACCAGTGAGAGAGGCTTGATGTGTATAAAAGACGTGATGTGCACCACCTCGATCTCGGTGTTTCAGGCACT AAAGCAACAAAACCACCATAGTATCTCATTCTGTCATCAGATCCAGAAGAAATATCCTGGTTTTCCAGCATGTT TACCCACATGTTTTGGCCATGGATAAAGTGAAGAGGCCTACTCACCATTATCCCTGCAGCGTGACACCTTTTGAT TGTCACTGACCACTCAGAAGGGGCCACGGCCTCCTGGCTGTTCCTGAGCCCCCGTCGTGCCTCTCCCAGACAG CAGCTGTCTGGCCCTTGCTGGGTGAGGGCACACCACTGCCAGGGGTCAGCCTCGCACCCAGGCCAGGCAGAAGCT GTGCTCTGAAGCTAGGACAGCTGGCTGAGAAGTGGGTTCAGGCGAAGGGTGAAGCCATGTGTAGCAGTTCCTGCC AGTGCAGATCTGGAGAGGAGCTGGCCCGGAAGGCGTGGTTGTGAAAGCGCCCTTCTTATGTTAGGAGGCCTTGGC AAAATTGGATTTCTTCAAAAATACATGTAAAGGTCTGTTGTTGAATTGTACTCTGCCCCTGGAAGCAGATACAGA TGGCTGCTGCTGCTCGCTTTTGCTTTTCCCACCGTGTTTTCATCTTTGTTCACTTGAGGCTTTCCCCA GCTGGTGTGCAGGACAGTTCATGGTAATGTTGCCCTCTGAGGCCCCGTACACCAGAAGGGAGGCCCTGGAAAA TTTTGTGCTTCCAACGTGGCCTTCAATTCTTGCTTTTTTGCCCCTCGGAAGCATGGGGCTTTTGAGCACACTTAA AAAAAGAAAA

GAAAAACAAAAAGAATCTTTGTTTTACCCCGAAAGAGAGGCAGAGGCAGAAAGTCTTCTTCTGCTTTTTGCATCT TTCCCTCAGCTAGAGGAGTCTCAGTGTGTCTGAGAAAATGGCAGTCAGCCATCCAGGATTTTAGGAGCAACGCCA CTGCTCTGTGCCACATCAGAAATCAGGCATGGCCCCAACCTGAAGGAACTTGTAGCTTAATGGGGAAGCACACCA AGAATAAAAGAGCCTCCAGAACATGTGGTGCCTGTGGTCCTGAGACAGCAGGAAATGGCTCTCAGGCCAGAGTTG CTGGAAGAACCCATGTGGCAGGATCGGTGGGAGGCAGTTACAGAGGGAAACGCCCATCCCAGCAACTAGGGGAGG CCGCCACTCCTCTCGTGGATGGATGATATTCTTGCTTGGGGATGTTGAGACAGCTGCACTCTGCATAGTTCCTGA TTTGCCTCTCTACTGCTGATGAAAAACCTCTCTTTCTCTATAGCTGCTGCTTATATTGGAAGGCTTTTGGTTATT CAGCACACTCACTCCTGAGCTTATTTCAGTGATATTCCTTGGTTATTTCGAAACATGGATGCTTGTGGCAGATGG TGGACCACGAAAGAAAATTATACTGACAGCTTCCAGGGTAGGGGGCAGTTGTAGCTTTCTGCAGATGTTGCCAAA TATATTGGGGGTGGGGAGCAGCAAATGCCATGTGTTGCTTTTTATGACATAAGGAGGGATTCCACCCCCATCCCA ATAAAATCGGTGCTTTGACAAAGGAGGGTTCCCAGGCAGCTAAGAGAACCCAGAGTAGATGATCCTCTTTATCTC TGGTTTAACCTGTGACTAGGATTCTTGGTGTAAGCTCGGCTTTTCCACTTATCCTCTAACCGGAACAGGCTTCTA TAATCTCTTTGCCTTAAAATAATTATCTGCATCCCTGTGTAGAGCAATCTTAAGCAGCTCTCCTTGTTTCTTCAG GGAATGGGAATTCTTTTCTAAGTCGCCCCATCAAAGGTACTATTGGTTTTTTACAACGCCGGCGTTTGTGTATGT AGTAAAAGTATTAACAGCATTAAAGGCGATATTTTTAACATGTTTATAGATACTACTTGGGGGAGGGCAGCTAAT CACACCCAGTTGAATTCAGCCAGGATTTATTGAGTTGGCATCACAGACGCTGACAGCCTCCAAGTGAAAACCCTT CTCTTGAATATGTACAGGTTTCCCATCCACATACCAAGCTGATGAGGATCCCATCGTTCTTCCCCAGTCCTGAGG AGCCCCCCCCGCCATCTGCACCTTCCATAGCCAAATCAGGGTCATTGGACTCAGAACTTTCAGTGTCCCCAAAAA GACCAGAAGGGCAGAGCCAGGCCCTGCGTCCACCTCTGCCTCTACCCGCCTGTTTGGGTTAACAAAGCCAAAGG AAAAGAAGG .

4676/6881 FIGURE 4311A

TCTGTTAAATGTTCCGAAGCCACTGCCAAAACACTGTGGGAGACCAAGGAGATTCAGTCCCTGTCAGGACGCCC TCGATCCTGTGATGTTGGAGGTGGCAATGCTTTTCCACATAATGGTCAAAACCTAGGCCTCTCACCCTTCTTGGG CACCACCGACCACTTTGGCAGTATGAGTGTGGGGAATAGTGTGAACAACATCCCAGCTGCTATGACCCACCT GCTTTCCTCTTCCTTAAATAACCACCCACAGACATCTGTTCCCAACGCATCTGCTCTTCACCCTTCGCTCCGTCT GTTTTCCCTTAGCAACCCATCTCTTTCCACCACAAACCTGAGCGGCCCGTCTCGGCGTCGGCAGCCTCCCGTCAG CCCTCTCACGCTTTCTCCTGGCCCTGAAGCACATCAAGGTTTCAGCAGACAGCTGTCTTCAACCAGCCCACTGGC CCCATATCCTACCTCCCAGATGGTGTCCTCAGACCGAAGCCAACTTTCCTTTCTGCCCACAGAAGCTCAAGCCCA GGTGTCGCCGCCACCCCCTTACCCTGCACCCCAGGAGCTCACCCAGCCCCTCCTGCAGCAGCCCCGCGCCCCTGA GGCCCCTGCCCAGCAGCCCCAGGCAGCCTCCTCACTGCCACAGTCAGACTTTCAGCTTCTCCCGGCCCAGGGCTC ATCTTTGACCAACTTCTTCCCAGATGTGGGTTTTGACCAGCAGTCCATGAGGCCAGGCCCTGCCTTTCCTCAACA GGTGCCTCTGGTGCAACAAGGTTCCCGAGAACTGCAGGACTCTTTTCATTTGAGACCAAGCCCGTATTCCAACTG CGGGAGTCTCCCGAACACCATCCTGCCAGACTCCAGCACCAGCCTGTTCAAAGACCTCAACAGTGCGCTGGCAGG CCTGCCTGAGGTCAGCCTGAACGTGGACACTCCATTTCCACTGGAAGAGGAGCTGCAGATTGAACCCCTGAGCCT GGACGGACTCAACATGTTAAGTGACTCCAGCATGGGCCTGCTGGACCCCTCTGTTGAAGAGACGCTTTCGAGCTGA CAGACTGTGAACAGAAGGCAGTGGAACAGAAGAATGTTTTTCTGCAACAGCCAAAATAGAATGGAATAGAATGAA ATCCCATCTCAGACACTGTGGCTTCCTCCAGATCACACGCTTTGTACTGCCTCTCCCGCCTGTGGCCAAAGTCG TGTTGCAGCAGGCAGGCTTGGAGCTTCCCATGAACTGGAAAGCTCACCTCCACTGCATCTTTTACTGGCCA TCCAGTCAGCCGATGTGTAAGAGTAGGAAATACTGTGTCACTGGAGGCCTCCGTAGCATTGTGTAGTGTGCTCAG AACCACTGATCTCCGTCCGCACCGAAGGCGGGCCCGGAGTGGGAGGCTCGGCCTGGGGCGGCGCACCGGAGAGG GCACCTCGATGCCTGCTCTGACCTGACCCAGAGGGCGGGGCCCTCCAGCGGGGGACATTCCCAGGCTGAGTGGAC CCCACGCTCTCCCCACGCCTGGATTACGACATGAAGTTTTTACCACAAGCCCGAGGGCAGGCTTGAGTTAGGC AGACTGAAGGCTAATTTTCATTTTCTCCCAGCTGGTTTCTGCTGCTTCAGAAAAGTACACCTTTTCCTTATGGAC CAGAGGAAGAGACCATTTTATCAGTCACTGAAAAGAGTCCCCTGGCACTGATGAGCCTGAAGAGAACTGTG CTCCTCCTCGGGGGCTGGGGAAGAAGACAGGGACTGCAGGTGTCTCATACTCAGTGGCCTCCAGACAAACTCCA AGCTTCCCCATCCCCAGAGCTGTGTCTCTGTGGGCTGGGAGTCTAATGTCACCCCCCTAGACCGTAAGCTC ACCTGTAGCTATCCCCTTCCCTGCCAGATCTTCTCAGAGCTTTAGCTTTTCTAGCACTCGTGCCTATGGTGAAGC ATGCACTTTAATATGCTTTTAACACTAGGTGACCAAATCACAGTGAAGCCGGGCACTGCATTCTCCTTGGGCTGT GCTCCACGCGGTGGGTGGGAGCTGTCTTCTGAGTACATCCGGAAGGGCTGAGCAGGTGAGTGCCCTGAGCATCC TGGCTGGGCCCCACCCAGGAAGATCTTCCTTCTCAGATCCACGTTTGGCTCTAAATTGCTTCAAGTAGAGATTCA TTCTTTGAGGTTGAAAAAATAGTTTATAGTAAAACGAAGGCCTAATTCATGGAAGCATCATTAGTCATCAATACC TTCTCATAAAATAGATGGGCCAGATTTCCACCACCGCCTCCTCTAACTTGGGTGATGCCAGTAGGTTTGAA GGGGGCAGAGCATTGCAGGGGGGGGGGGGGTCTAGGCTGTGAGAGGACAGGGTGGAGAGAGGAGAACCCTGAA GGAGAGACGGAAGATGCCAGGACCTTTGCTTGGACAGCCATTGCCCTTCCAGGAGACCCTGGAGTGTACTGAGGG TTGCTGGACTGTTCCACCCAGAGGAGCAAGGCTGTACAATGAGGGTCTGAATCTGGCACACCTGTCCCTTATGTA AAAGGAGTCGTGGTCACAAGACCCTGGGCTGGTTAGCCTCTCCCGACCTCATTCCATTTCTATCTTCTGACCTTG CCTCTCATCTTTAAAATAACCCTCATGGGGTGCCCCTCCACCTTCCTCTGGAATCCAAGTATTCCTGTTTCACAT TTGCCCCAAATCTTTGCTGTGGAATTGGGAAATCAAACCAGAGTCCTCCTCGCCTGATTTCCAGCTCAGGAAGGG CCTGCTGGCCTGCCCTGTTCCCAGTTACACTTTCAGATCCCTTTGTGCTCAAGATCTCAGAGGGGGTGGCTTTTT GTTAAAGAGCCTTCAGTCGCAATGCTACCCAGCACCCCATGTGCCAAAAGAAACCAGCTCCTGTGTCAAAGGGCT TCCAAACCTGATCTCACTCTCAACAGGCGATGGTGCTGATGTTTCAAGAATTGTGTTTTTATAAAACAGAGGTCT CAGCATAGTCACTCTTCACATAGTGCCTTACCCATGGGTATCGTCATATCCGGGTCCCAGTTCAGTTTGTCTGCA CAGCAGCCACCCTGCCTGGCAACAGAGACCCCAAGACCTACACAGTGAACCCTACTGCCCCAAAGGCGTTCTCCA

4677/6881 FIGURE 4311B

WO 2004/030615 PCT/US2003/028547

4678/6881 FIGURE 4312

TTTTTCTGGTAGAAGGCGGGGTTCTCCTCGTACGCTGCGGAGTCTCTGCGGGGTGTAGACCGGAATCCTGCTGAC GGGCAGAGTGGATCAGGGAGGGGGGGGGGTCGAGACACGGTGGCTGCAGGTCTGAGACAAGGCTGCTCCGAGGTAGTA GCTCTCTTGCCTGGAGGTGGCCATTCATTCCTGGAGTGCTGCTGAGGAGCGAGGGCCCATCTGGGGTCTCTGGAA ATTCATTGAGGCAGATCTCATGAGCCCTTTGGATCGAATTGCCAATGTCTCCATCCTGAAGCAACACGAAGTAGA CAAGCTATACAAGGTGGAGAACAAGCCAGCCCTCAGCTCCAATGAACAATTGTGCTTCTTGGTCAGACCCCGCAT CTTCAGCCCTCAAAAGTTCTATGCGTGTGAGATGGTGCTTGAGGAAGAGGGGAATCTATGGAGATGTGAGCTGTGA TGAATGGGCCTTCTCTTTGCTGCCTCTTGATGTGGATCTGCTGAGCATGGAACTACCAGAATTTTTCAGGGATTA CTTTCTGGAAGGAGTCAGCGTTGGATCAACACTGTAGCTCAGGCCTTACACCTTCTCAGCACTCTCTATGGACC CTTTCCAAACTGCTATGGAATTGGCAGGTGCGCCAAGATGGCATATGAATTGTGGAGGAACCTGGAGGAGGAGGA GGATGGCGAAACCAAGGGCCGAAGGCCAGAGATTGGACATATCTTTCTCTTGGACAGAGATGTGGACTTTGTGAC AGCACTTTGCTCCCAAGTGGTTTATGAGGGCCTAGTAGATGACACCTTCCGCATCAAGTGTGGGAGTGTCGACTT TGGCCCAGAAGTCACATCCTCTGACAAGAGCCTGAAGGTGCTACTCAATGCCGAGGACAAGGTGTTTAATGAGAT TCGGAACGAGCACTTCTCCAATGTCTTTGGCTTCTTGAGCCAGAAGGCCCGGAACTTGCAGGCCCAGTATGATCG CCGGAGAGGCATGAACATTAAGCAGATGAAGAATTTCGTGTCCCAGGAGCTCAAGGGCCTGAAACAGGAGCACCG CCTGCTGAGTCTCCATATTGGGGCCTGTGAATCCATCATGAAGAAGAAAACCAAGCAGGATTTCCAGGAGCTAAT CAAGACTGAGCATGCACTGCTAGAGGGGTTCAACATCCGGGAGAGCACCAGCTACATTGAGGAACACATAGACCG GCAGGTGTCGCCTATAGAAAGCCTGCGCCTCATGTGCCTTTTGTCCATCACTGAGAATGGTTTGATCCCCAAGGA TTACCGATCTCTGAAAACACAGTATCTGCAGAGCTATGGCCCTGAGCACCTGCTAACCTTCTCCAATCTGCGAAG AGCTGGGCTCCTAACGGAGCAGGCCCCCGGGGACACCCTCACAGCCGTGGAGAGTAAAGTGAGCAAGCTGGTGAC $\tt CGACAAGGCTGCAGGAAAGATTACTGATGCCTTCAGTTCTCTGGCCAAGAGGAGCAATTTTCGTGCCATCAGCAA$ AAAGCTGAATTTGATCCCACGTGTGGACGGCGAGTATGATCTGAAAGTGCCCCGAGACATGGCTTACGTCTTCAG TGGTGCTTATGTGCCCCTGAGCTGCCGAATCATTGAGCAGGTGCTAGAGCGGCGAAGCTGGCAGGGCCTTGATGA GGTGGTACGGCTGCTCAACTGCAGTGACTTTGCATTCACAGATATGACTAAGGAAGACAAGGCTTCCAGTGAGTC CCTGCGCCTCATCTTGGTGGTGTTCTTGGGTGGTTGTACATTCTCTGAGATCTCAGCCCTCCGGTTCCTGGGCAG GGTGAAAGCC<u>TGA</u>TGTTTTTCCCGGCCAGTGTTGACATCTTCCCTGAACACATTCCTCAGTGAGATGCAGGCATC TGGCACCCAGCTGCTATAACCAAGTGTCCACCAACTACCTGCTAAGAGCCGGGAGCATGGAACGTGTTGGGATTT AGAGAACATTATCTGAGAAAAGAGTTCACTTCCTGCTCCCAGGATATTTCTCTTTTCTGTTTATGAAGTACAACC TGCTCTCAGATGTAAAAAAAAAAAAAAAAAAAAAAAAA

MAFPHRPDAPELPDFSMLKRLARDQLIYLLEQLPGKKDLFIEADLMSPLDRIANVSILKQHEVDKLYKVENKPAL
SSNEQLCFLVRPRIKNMRYIASLVNADKLAGRTRKYKVIFSPQKFYACEMVLEEEGIYGDVSCDEWAFSLLPLDV
DLLSMELPEFFRDYFLEGDQRWINTVAQALHLLSTLYGPFPNCYGIGRCAKMAYELWRNLEEEEDGETKGRRPEI
GHIFLLDRDVDFVTALCSQVVYEGLVDDTFRIKCGSVDFGPEVTSSDKSLKVLLNAEDKVFNEIRNEHFSNVFGF
LSQKARNLQAQYDRRRGMDIKQMKNFVSQELKGLKQEHRLLSLHIGACESIMKKKTKQDFQELIKTEHALLEGFN
IRESTSYIEEHIDRQVSPIESLRLMCLLSITENGLIPKDYRSLKTQYLQSYGPEHLLTFSNLRRAGLLTEQAPGD
TLTAVESKVSKLVTDKAAGKITDAFSSLAKRSNFRAISKKLNLIPRVDGEYDLKVPRDMAYVFSGAYVPLSCRII
EQVLERRSWQGLDEVVRLLNCSDFAFTDMTKEDKASSESLRLILVVFLGGCTFSEISALRFLGREKGYRFIFLTT
AVTNSARLMEAMSEVKA

GGCACGAGGGGCGTTTCCTCCAAGGCTGCCCACCAGAAGGACCTGCCCGAGAGGGTAGAGGCATAGGGTCAAGA ${\tt TCAAGATAAGGCAGCTCCAGCCCTGGAAGGCCAGAGACTTGCCAGTGTCCCACTAGCGGCTCTTCGCAAGAAT}$ CCCCCGGGCCGCCGCAGCCAGGCGGCGGCCGGCAGAGGGCGCTGCTCGGGCATGGCGGAGGAGCGGCCGGGGG GTCCGCTGCGGCGGGCGTCGACATCTGCCGCGTGAGCGCGAGCTGGAGCTACACCGCTTTCGTGACCCGTGAGC $\verb|ACTCCCGCCCGTCCCACTTATTCCAGCCGCGCTCCCCAGTCGCCTCCCCGCACCGCTGTGGCCAGTCCAGTT| \\$ TGTCTCCCCGTTCAGGCCGCCAGCCCCACATTCTGGGTTGGTCCCCAATTCGACCCCTTCCCAGGAACACCCCG CTCCCCCATCCCGCCGCCTCCATTCTGGCCACCCTGCTCCAATCCGCCCCGCAGGTGGAGGCCGCTTGGAGCT GTCGGGCTCAGCCAGCGGCGCGGCGGCCGCTGCAAGGACGCGTGGGCCTCCGAGGGGCTCCTCGCGGTGCTGCG GCCTGCGCCCGTGCCTACGTGAGCCCGCGGGCGCCCTTCTACCGGCCTCTGGCTCCGGAGCTGCGGGCACGCCA $\tt TGGACAGCTGGGCCATGGGACCCTGGAGGCAGAGCTGGAGCCACGGCTGTTGGAGGCGTTGCAGGGCCTAGTC{\color{red} ATCCCT A$ TGAATCAGGGCAGCTGGCCCTGCCCACCAGGAACCTGGCAGAGGATGGAGAGACTGTCGCAAGGGAAGCCACAGA ACTGAATGAAGATGGTTCTCAGGTGAAGAGAACGGGTGGGGCTGAGGATGGAGCCCCTGCCCCTTCATAGCTGT $\verb|CCAGCCCTTCCCGGCATTACTGGATCTCCCCATGGGCTCAGATGCAGTCAAGGCCAGCTGTGGATCCCGGCACAC| \\$ AGCTGTGGTGACACGAACAGGGGAGCTCTACACCTGGGGCTGGGGTAAATATGGACAGCTGGGCCACGAGGACAC CACCAGCTTGGATCGGCCTCGCCGTGTGGAATACTTTGTAGATAAGCAACTCCAAGTAAAGGCTGTCACCTGTGG GCCGTGGAACACCTACGTGTATGCTGTGGAGAAAGGGAAGAGCTGACATGTGTACGTATATGTATATGCAACACC TGTGAGACCCCCATTCAGGTCAAGGAAAACCATTGCCTGCACCCCAAGGGCCCCATATTTGCCCCTCCCCATCAC AGTCCTGCCCTTCACCCTCAAGCACGGTCCTAAACTTGTCTGCACTTTAGAAACACCTGGAGAGCATTGAAAACT CTGCTGCCTAAGGTCAGCATCAATCAAACAATGAAATCAATGAAACAATGAAACCAGAGCTTCTAGGTGTGTGG CCTGGATAGTGGTAGATTCAAAGCTCCACCCACCTCATCCCAGGTACATTTGATGTGCAGCTGAGATTGGGGCAC ATTCCAGGTCATCGTCTTCTGTCAGTCATTTCCCTGCTTTCGTTTGAATTTTACCATTCTTGTATGCAGCCTTAT ACGACATAGTTGTGTTTTGCTTTTGAGTGTTAGATAAATGGAATCCTGTGTATGTGCTTTTTGTGTCATTTTGTCA CTCAGCATTGTATAATCCATCCTTGTTGGGTCCTGGAGTTCATTTTTAATGCTATATGGTGTTCTGTTGTATGAA TAATACCTCAAGTGATACAAAAAAAAAAAAAAAAAAA

FIGURE 4316

MAEVAAGGWHSVCVSETGDIYIWGWNESGQLALPTRNLAEDGETVAREATELNEDGSQVKRTGGAEDGAPAPFIA VQPFPALLDLPMGSDAVKASCGSRHTAVVTRTGELYTWGWGKYGQLGHEDTTSLDRPRRVEYFVDKQLQVKAVTC GPWNTYVYAVEKGKS

FIGURE 4317

CGCCCGCGGCCGAGGTGGACGGAGCCTCCCGGCTGCTCCCGCCGGCGGAGCGAGGCTGCCCTTTCTTCGCA CCCAGCCTCAGACGACACCCCCGAGTTCTGTGCAGCCTTGCGCAGCTACGCCCTGTGCACGCGGCGGACGGCCCG CACCTGCCGGGGTGACCTGGCCTACCACTCGGCCGTCCATGGCATAGAGGACCTCATGAGCCAGCACAACTGCTC CCCCGAGATCTGCCATTACGAGAAGAGCTTTCACAAGCACTCGGCCACCCCCAACTACACGCACTGTGGCCTCTT CGGGGACCCACACCTCAGGACTTTCACCGACCGCTTCCAGACTTGCAAGGTGCAGGGCGCCTGGCCGCTCATCGA CAATAATTACCTGAACGTGCAGGTCACCAACACGCCTGTGCTGCCCGGCTCAGCGGCCACTGCCACCAGCAAGCT CACCATCATCTTCAAGAACTTCCAGGAGTGTGTGGACCAGAAGGTGTACCAGGCTGAGATGGACGAGCTCCCGGC CGCCTTCGTGGATGGCTCTAAGAACGGTGGGGACAAGCACGGGGCCAACAGCCTGAAGATCACTGAGAAGGTGTC AGGCCAGCACGTGGAGATCCAGGCCAAGTACATCGGCACCACCATCGTGGTGCGCCAGGTGGGCCGCTACCTGAC CTTTGCCGTCCGCATGCCAGAGGAAGTGGTCAATGCTGTGGAGGACTGGGACAGCCAGGGTCTCTACCTCTGCCT GCGGGGCTGCCCCTCAACCAGCAGATCGACTTCCAGGCCTTCCACACCAATGCTGAGGGCACCGGTGCCCGCAG GCTGGCAGCCGCCAGCCCTGCACCCCACAGCCCCCGAGACCTTCCCATACGAGACAGCCGTGGCCAAGTGCAAGGA GAAGCTGCCGGTGGAGGACCTGTACTACCAGGCCTGCGTCTTCGACCTCCTCACCACGGGCGACGTGAACTTCAC ACTGGCCGCCTACTACGCGTTGGAGGATGTCAAGATGCTCCACTCCAACAAAGACAAACTGCACCTGTATGAGAG GACTCGGGACCTGCCAGGCAGGCGGCTGCGGGGCTGCCCCTGGCCCCCCGGCCCCTCCTGGGCCCCTGGTCCC GCTCCTGGCCCTGCTCCCTGTGTTCTGC<u>TAG</u>ACGCGTAGATGTGGAGGGAGGCGCGGGCTCCGTCCTCTGGGCTT CCCCATGTGTGGGCTGGGACCGCCCACGGGGTGCAGATCTCCTGGCGTGTCCACCATGGCCCCGCAGAACGCCAG GGACCGCCTGCTGCCAAGGGCTCAGGCATGGACCCCTCCCCTTCTAGTGCACGTGACAAGGTTGTGGTGACTGGT TGAAACATCCCCTCAGGCTGAAGCCCCCCACCCCACCAGAGACACACTGGGAACCGTCAGAGTCAGCTCCTTCC CGCACACACTCTTACACGAGAGCACACTCGATCCCCTAGGCCAGCGGGGACACCCCAGCCACACAGGGAGGCAT CCAGTAGGTCGTGCCCGGCTGGTGCCTTCTGGCCTGTGGCCTCCCTGCCCATGTTCACCTGGCTGCTGTGGGTAC CAGTGCAGGTCCCGGTTTTCAGGCACCTGCTCAGCTGCCCGTCTCTGGCCTGGGCCCCTGCCCCTTCCACCCTGT TGCAGATGCAAGAGCTCCTGGGCAGGGTGCCTGGGCCCCAGGGTGTGGCAGGAGACCCAGTGGATGGGCCCAGC GGGGAGAGGAGCAGGGTCTTAGGACTCTCAGCTCTGAGCATCCCTGGCAGGGTCTTCAACCTCTAATCTCTTCCC TTAAGCCCTGTGGCCACACAGCCAGGAGAGACTTGCCGCTGGCTCCCGCCTCATTTCAGCCCAGGGTGCTCATCC AGGGGCCCAGAACAGTCCCACCTGTGCTGCTATGCCCACAGCACAAAGCCAGGCTTCACTCCCAAAAGTGCAGCC AGGCCCTGGAGGGTGATCCTGCCAGCAGCCCTACAGCTCCACACCCTACCCCATCGGCAGCCCCTCTGCTGT GTTGGTCCCTATGTTGGAAGTAAAAAGTGAAGCACTTTATTTTGGTTGTTTTGCTCACGTTCTGCTTGGAAGTG TAATGGCTAAATGCAAGTAAAGTTTGGTTTTTTTGTT

MGMGRGAGRSALGFWPTLAFLLCSFPAATSPCKILKCNSEFWSATSGSHAPASDDTPEFCAALRSYALCTRRTAR TCRGDLAYHSAVHGIEDLMSQHNCSKDGPTSQPRLRTLPPAGDSQERSDSPEICHYEKSFHKHSATPNYTHCGLF GDPHLRTFTDRFQTCKVQGAWPLIDNNYLNVQVTNTPVLPGSAATATSKLTIIFKNFQECVDQKVYQAEMDELPA AFVDGSKNGGDKHGANSLKITEKVSGQHVEIQAKYIGTTIVVRQVGRYLTFAVRMPEEVVNAVEDWDSQGLYLCL RGCPLNQQIDFQAFHTNAEGTGARRLAAASPAPTAPETFPYETAVAKCKEKLPVEDLYYQACVFDLLTTGDVNFT LAAYYALEDVKMLHSNKYKLHLYDRTRDLPGRAAAGLPLAPRPLLGALVPLLALLPVFC

AGCCGGTGCGCCGCAGACTAGGGCGCCTCGGGCCAGGGAGCGCGGAGGAGCCATGGCCACCGCTAACGGGGCCGT GGAAAACGGGCAGCCGGACAGGAAGCCGCCGGCCCTGCCGCGCCCCATCCGCAACCTGGAGGTCAAGTTCACCAA GATATTTATCAACAATGAATGGCACGAATCCAAGAGTGGGAAAAAGTTTGCTACATGTAACCCTTCAACTCGGGA GCAAATATGTGAAGTGGAAGAAGGAGATAAGCCCGACGTGGACAAGGCTGTGGAGGCTGCACAGGTTGCCTTCCA GAGGGACCGCCCCCTGGCCCCCTGGAGACGATGGATACAGGGAAGCCATTTCTTCATGCTTTTTTCATCGA CCTGGAGGGCTGTATTAGAACCCTCAGATACTTTGCAGGGTGGGCAGACAAAATCCAGGGCAAGACCATCCCCAC AGATGACAACGTCGTGTGCTTCACCAGGCATGAGCCCATTGGTGTCTGTGGGGCCCATCACTCCATGGAACTTCCC CCTGCTGATGCTGGTGGGAAGCTGGCACCCGCCCTCTGCTGTGGGAACACCATGGTCCTGAAGCCTGCGGAGCA GACACCTCTCACCGCCCTTTATCTCGGCTCTCTGATCAAAGAGGCCGGGTTCCCTCCAGGAGTGGTGAACATTGT GCCAGGATTCGGGCCCACAGTGGGAGCAGCAATTTCTTCTCACCCTCAGATCAACAAGATCGCCTTCACCGGCTC CACAGAGGTTGGAAAACTGGTTAAAGAAGCTGCGTCCCGGAGCAATCTGAAGCGGGTGACGCTGGAGCTGGGGGG GAAGAACCCCTGCATCGTGTGCGGACGCTGACTTGGACTTGGCAGTGGAGTGTGCCCATCAGGGAGTGTTCTT CAACCAAGGCCAGTGTTGCACGGCAGCCTCCAGGGTGTTCGTGGAGGAGCAGGTCTACTCTGAGTTTGTCAGGCG GAGCGTGGAGTATGCCAAGAAACGGCCCGTGGGAGACCCCTTCGATGTCAAAACAGAACAGGGGCCTCAGATTGA CTCAGCCATGGAAGACAAGGGGCTCTTCATCAAACCCACTGTCTTCTCAGAAGTCACAGACAACATGCGGATTGC CAAAGAGGAGATTTTCGGGCCAGTGCAACCAATACTGAAGTTCAAAAGTATCGAAGAAGTGATAAAAAGAGCGAA TAGCACCGACTATGGACTCACAGCAGCCGTGTTCACAAAAAATCTCGACAAAGCCCTGAAGTTGGCTTCTGCCTT AGAGTCTGGAACGGTCTGGATCAACTGCTACAACGCCCTCTATGCACAGGCTCCATTTGGTGGCTTTAAAATGTC AGGAAATGGCAGAGAACTAGGTGAATACGCTTTGGCCGAATACACAGAAGTGAAAACTGTCACCATCAAACTTGG CGACAAGAACCCCTGAAGGAAAGGCGGGGCTCCTTCCTCAAACATCGGACGGCGGAATGTGGCAGATGAAATGTG CTGGAGGAAAAAATGACATTTCTGACCTTCCCGGGACACATTCTTCTGGAGGCTTTACATCTACTGGAGTTGAA TGATTGCTGTTTTCCTCTCACTCTCCTGTTTATTCACCAGACTGGGGATGCCTATAGGTTGTCTGTGAAATCGCA GTCCTGCCTGGGGAGGGAGCTGTTGGCCATTTCTGTGTTTCCCTTTAAACCAGATCCTGGAGACAGTGAGATACT CAGGGCGTTGTTAACAGGGAGTGGTATTTGAAGTGTCCAGCAGTTGCTTGAAATGCTTTGCCGAATCTGACTCCA GTAAGAATGTGGGAAAACCCCCTGTGTGTTCTGCAAGCAGGGCTCTTGCACCAGCGGTCTCCTCAGGGTGGACCT GCTTACAGAGCAAGCCACGCCTCTTTCCGAGGTGAAGGTGGGACCATTCCTTGGGAAAGGATTCACAGTAAGGTT TTTTGGTTTTTGTTTTTCTTGTTTTTAAAAAAAGGATTTCACAGTGAGAAAGTTTTGGTTAGTGCATAC CGTGGAAGGGCGCCAGGGTCTTTGTGGATTGCATGTTGACATTGACCGTGAGATTCGGCTTCAAACCAATACTGC CTTTGGAATATGACAGAATCAATAGCCCAGAGAGCTTAGTCAAAGACGATATCACGGTCTACCTTAACCAAGGCA CTTTCTTAAGCAGAAAATATTGTTGAGGTTACCTTTGCTGCTAAAGATCCAATCTTCTAACGCCACAACAGCATA GCAAATCCTAGGATAATTCACCTCCTCATTTGACAAATCAGAGCTGTAATTCGCTTTAACAAATTACGCATTTCT ATCACGTTCACTAACAGCTTATGATAAGTCTGTGTAGTCTTCCTTTTCTCCAGTTCTGTTACCCAATTTAGATTA GTAAAGCGTACACAACTGGAAAGACTGCTGTAATAACACAGCCTTGTTATTTTTAAGTCCTATTTTGATATTAAT TTCTGATTAGTTAGTAAATAACACCTGGATTCTATGGAGGACCTCGGTCTTCATCCAAGTGGCCTGAGTATTTCA CTGGCAGGTTGTGAATTTTCTTTTCCTCTTTGGGGATCCAAATGATGATGTGCAATTTCATGTTTTAACTTGGG ACTAGTACTTTCCTAATTGGGAAAGTAGTGCTTAAGTTTGCAAATTAAGTTGGGGAGGGCAATAATAAAATGAGG GCCCGTAACAGAACCAGTGTGTATAACGAAAACCATGTATAAAATGGGCCTATCACCCTTGTCAGAGATATAA ATTACCACATTIGCCTTCCCTTCATCAGCTAACACTTATCACTTATACTACCAATAACTTGTTAAATCAGGATTT GGCTTCATACACTGAATTTTCAGTATTTTATCTCAAGTAGATATAGACACTAACCTTGATAGTGATACGTTAGAG TATCTTTTTATAGTTGTAAGTACACAGAGGTGGTATATTTAAACTTCTGTAATATACTGTATTTAGAAATGGAAA TATATATAGTGTTAGGTTTCACTTCTTTTAAGGTTTACCCCTGTGGTGTGGTTTAAAAATCTATAGGCCTGGGAA TTCCGATCCTAGCTGCAGATCGCATCCCACAATGCGAGAATGATAAAATAAAATTGGATATTTGAGA

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MVKLTAELIEQAAQYTNAVRDRELDLRGYKIPVIENLGATLDQFDAIDFSDNEIRKLDGFPLLRRLKTLLVNNNR ICRIGEGLDQALPCLTELILTNNSLVELGDLDPLASLKSLTYLSILRNPVTNKKHYRLYVIYKVPQVRVLDFQKV KLKERQEAEKMFKGKRGAQLAKDIARRSKTFNPGAGLPTDKKRGGPSPGDVEAIKNAIANASTLAEVERLKGLLQ SGQIPGRERRSGPTDDGEEEMEEDIVTNGS

GACACTATCCGTGCGGCCAGGCGGAGACCCGGAGGACCGAAGCTTCCGGACGACGACGAACACATGGCC ${\tt TCGGAGAGCTTTGGGGTGGCCGGTTTGTGGGTGCAGTGGACCCCATCATGGAGAAGTTCAACGCGTCC}$ ATTGCCTACGACCGGCACCTTTGGGAGGTGGATGTTCAAGGCAGCAAAGCCTACAGCAGGGGCCTGGAGAAGGCA GGGCTCCTCACCAAGGCCGAGATGGACCAGATACTCCATGGCCTAGACAAGGTGGCTGAGGAGTGGGCCCAGGGC ACCTTCAAACTGAACTCCAATGATGAGGACATCCACACCCAATGAGGCCCGCCTGAAGGAGCTCATTGGTGCA ACGGCAGGGAAGCTGCACACGGGACGGAGCCGGAATGACCAGGTGGTCACAGACCTCAGGCTGTGGATGCGGCAG ACCTGCTCCACGCTCTCGGGCCTCCTCTGGGAGCTCATTAGGACCATGGTGGATCGGGCAGAGGCGGAACGTGAT GTTCTCTCCCGGGGTACACCCATTTGCAGAGGGCCCAGCCCATCCGCTGGAGCCACTGGATTCTGAGCCACGCC GTGGCACTGACCCGAGACTCTGAGCGGCTGCTGGAGGTGCGGAAGCGGATCAATGTCCTGCCCCTGGGGAGGTGG GGCCATTGCAGGCAATCCCCTGGGTGTGGACCGAGAGCTGCTCCGAGCAGAACTCAACTTTGGGGCCATCACTCT CAACAGCATGGATGCCACTAGTGAGCGGGACTTTGTGGCCGAGTTCCTGTTCTGGGCTTCGCTGTGCATGACCCA TCTCAGCAGGATGGCCGAGGACCTCATCCTCTACTGCACCAAGGAATTCAGCTTCGTGCAGCTCTCAGATGCCTA CAGCACGGGAAGCAGCCTGATGCCCCAGAAGAAAAACCCCGACAGTTTGGAGCTGATCCGGAGCAAGGCTGGGCG TGTGTTTGGGCGGTGTGCCGGGCTCCTGATGACCCTCAAGGGACTTCCCAGCACCTACAACAAAGACTTACAGGA GGACAAGGAAGCTGTGTTTGAAGTGTCAGACACTATGAGTGCCGTGCTCCAGGTGGCCACTGGCGTCATCTCTAC GCTGCAGATTCACCAAGAGAACATGGGACAGGCTCTCAGCCCCGACATGCTGGCCACTGACCTTGCCTATTACCT GGTCCGCAAAGGGATGCCATTCCGCCAGGCCCACGAGGCCTCCGGGAAAGCTGTGTTCATGGCCGAGACCAAGGG GGTCGCCCTCAACCAGCTGTCACTGCAGGAGCTGCAGACCATCAGCCCCCTGTTCTCGGGCGACGTGATCTGCGT GTGGGACTACGGCACAGTGTGGAGCAGTATGGTGCCCTGGGCGCACTGCGCGCTCCAGCGTCGACTGGCAGAT CCGCCAGGTGCGGCGCTACTGCAGGCACAGCAGGCCTAGGTCCTCCCACACCTGCCCCCTAATAAAGTGGGCGC GAG

4689/6881 FIGURE 4323A

GCACCAGAAGCCAGCAGTGGGGTTGCACACGCGCCTCTTCACGAGGTGGAAACAAGATGGAGGATTCGGCCTCGG ATAAAGAACAGGTTAGAAAGGCAGTGGACGCTCTCTTGACGCATTGCAAGTCCAGGAAAAACAATTATGGGTTGC CTGAAAAGACAGAACAGTTTTATAGAAAGCTTTTAAACAAGCATGGAATTAAAACCGTTTCTCAGATTATCTCCC TCCAAACTCTAAAGAAGGAATATAAATCCTATGAAGCCAAGCTCCGCCTTCTGAGCAGTTTTGATTTCTTCCTTA CTGTAAACCTTCTGTCCAAGAATTTATCAAGAGAGATCAATGACTGTATAGGTGGAACAGTCTTAAACATTTCTA AAAGTGGTTCTTGCAGTGCTATACGTATTGGTCACGTTGGAAATGCAAATTGAGCACATCATTGAAAACATTGTTG CTGTCACCAAAGGACTTTCAGAAAAATTGCCAGAGAAGTGGGAAGGCGTGAAACTCCTGTTTGTGAAAACTGAGA AATCGGCTGCACTTCCCATCTTTTCCTCGTTTGTCAGCAATTGGGATGAAGCCACCAAAAGATCTTTGCTTAATA AGAAGAAAAAGAGGCAAGGAGAAAACGAAGAGAAAATTTTGAAAAACAAAAGGAGAAGAAGAAGAAGAGGC AGCAGGCTAGGAAGACTGCATCAGTTCTTAGTAAAGATGATGTGGCACCTGAAAGTGGTGATACTACAGTGAAGA AACCTGAATCAAAGAAGGAACAGACCCCAGAGCATGGGAAGAAAAAACGTGGCAGAGGAAAAAGCCCAAGTTAAAG CAACAAATGAATCCGAAGACGAAATCCCACAGCŢGGTACCAATAGGAAAGAAGACTCCAGCTAATGAAAAAGTAG AGATTCAAAAACATGCCACAGGAAAGAAGTCTCCAGCAAAGAGTCCTAATCCCAGCACACCTCGTGGGAAGAAAAA GAAAGGCTTTGCCAGCATCTGAGACCCCAAAAGCTGCAGAGTCTGAGACCCCAGGGAAAAAGCCCAGAGAAGAAGC AGCCAGAGGCCAAGTTTTTCACCACTCCTAGTAAATCTGTGAGAAAAGCTTCCCACACCCCCAAAAAATGGCCCA TTTTTGGAAATACTCAGATCCTGGCCGCCTTTGTAACCTTCTCTAAACGTCAGGCCTGGACTTAAAAGATTTTTT AATTGGGCATGGTGGTGGACACCTGTAATCCCAGCTACTAGGGAGGCTGAGGCAGGAGAATTGCTTGAACCTGGG TAATAAAACCTCCATAAGTAATCCTGACATATGTTCCTGGGTATAATCTGTTTCTAAATTGTCCTTCTGTGTATT TGCTAATGTAATAGAGGGAAAAATAGAGTGCTTCTCTGTGGTTGTTCAGCACTTTAGGTAGCCAAGGTGAGAGGA TTAGTGTGGCATGGTGGCATCTGTGCTCCCAGCTCCTCACGAGGCTGAGGTGGAAGGATCAAGTGAGCGCA AGAGGTTGAGGCTCCAGTGAGCCACGATCACCCCACTGTGCTGTAGCCTGGGTGACAGTGTGAGATTCTGTCTCA GAAAAAACAAAGTATAACATTGCTTTGCTTCTGAGTATACTGTTGGCTTTCCAAATCAGTGGGTCTGACTTGAGG TCTGTGATGTGACCCTTTTCCTCACCTGCTCAACCATTATTCACATGGACTCCATCATATTCATTTGTAGTCATT CCCAGAGTGGCCCAGTGAGGGTCTCGCTGTATGAGAGTCGGCTACGGAATTTAGGAGAAACAGAAGTTTCTTGGC TTTCATGCTGAGCTTGTTGGTCTAAGCTTATGAGTCACTGGATTAGCATCCATATGGGAAGGGAAATTAACATGG AGTCATTTATACAGGGACTAAATTGAATCCTACCTACCGGAGGCAAGAACATGATTTATCTTCCATAAGCCTTAT TTGCTAACGTTTCCACAATTGTCAAGTATATTCTGAGGCAGTAAACACCTTTTTAGGTACGTGGCCTTTCACTGG TTGTGAATTGGTATGCATCCGTAGTAGTAAGTTCACAGATTCACTGCAGTGCAGGAATGTTCTTGCATGCCAAAG ACTCAACTGCTTTCAAAGATAATGTGGGTGCTAGATGCAGTGGCTTACATCTGTAACCCTGTTAGGGTGACCAGA CCCAACACCAGGTCGTGGGGGTGACAAAGTCCAGTGGAGTCAAAGGATTGAGAAAAAAGACAGTTTGAGAGAAAA ATCCAACAAAGAAACAGATGGTGAGAATGTGAAGGTCAGAAGGGCACCTTGCATTAAGCACATGATTTACAGCTG TGATGGTTTAGCATTTGCTCTGCTACTTGAGATGATGGAĞAGCAGGTTCTTTTAACTCAAGTTACAGTCGATCCT GGGAGAGCAAGGAGCCAGCAAGTCTAGACATTCCAGAGCCACAGGCCCTGGATTTTATCCAAGCCACGAGGGATT TTATGCCCTGGGCTTAGATTATGGTGCGTCAGGGCAGCCTTCCACCCTTTAGCACAGAGCTTGGTGTTCCAAAGA CCACAAGGGGTTTTAGACCCTTGACCCTGGACATATTCCAAGACTCTTTTACATTATGTCAGAATGCAAGCCCTG CCTCAGCTTCTCCCAACACTCAGCTTTTCGCAACATAATCCCAGCACTTTGGAACGCTGGGTGGATTGCTTGAAC

4690/6881 FIGURE 4323B

MEDSASASLSSAAATGTSTSTPAAPTARKQLDKEQVRKAVDALLTHCKSRKNNYGLLLNENESLFLMVVLWKIPS KELRVRLTLPHSIRSDSEDICLFTKDEPNSTPEKTEQFYRKLLNKHGIKTVSQIISLQTLKKEYKSYEAKLRLLS SFDFFLTDARIRRLLPSLIGRHFYQRKKVPVSVNLLSKNLSREINDCIGGTVLNISKSGSCSAIRIGHVGMQIEH IIENIVAVTKGLSEKLPEKWESVKLLFVKTEKSAALPIFSSFVSNWDEATKRSLLNKKKKGGKEKTKRKKF WO 2004/030615 PCT/US2003/028547

4692/6881 FIGURE 4325

TGTCAGCCGGCCTAGGAGGAGGAGGAGCCTGCGGCGTGCAGTGTGAGGGGCCGGACCCGGCTGCCGGCGGTGGG TCTAGCTGGGGGAGGTCGGGCCATGCTGGTGGGCCAGGGCCGGGGGCCGCTGGGGCCCGCGGTGGTCACCGCCGC GGTGGTGCTGCTGAGCGGCGTGGGGCCGGCGCACGGCTCGGAGGACATCGTGGTGGGCTGCGGTGGCTTCGT CAAGTCGGACGTGGAGATCAACTACTCTCTCATCGAGATAAAGCTGTACACCAAGCATGGGACTTTGAAATACCA GACAGACTGTGCCCCTAATAATGGTTACTTTATGATCCCTTTGTATGATAAGGGGGATTTCATTCTGAAGATTGA GCCTCCCCTAGGGTGGAGTTTTGAGCCGACGACCGTGGAGCTCCATGTGGATGAGTCAGTGACATCTGCACAAA GGGTGGGGACATCAACTTTGTCTTCACTGGGTTCTCTGTGAATGGCAAGGTCCTCAGCAAAGGGCAGCCCCTGGG TCCTGCGGGAGTTCAGGTGTCTCTGAGAAACACTGGGACCGAAGCAAAGATCCAGTCCACAGTTACACAGCCTGG AGAGGCAAGCACCACAGTGCGTGTAACCAACTCCAATGCCAATGCGGCCAGTCCCCTCATAGTTGCTGGCTACAA TGTGTCTGGCTCTGTCCGAAGTGATGGGGAGCCCATGAAAGGCGTGAAGTTTCTTCTTTTTCTTTAGTAAC TAAAGAGGATGTCCTGGGCTGCAATGTCTCACCAGTGCCTGGGTTCCAGCCCCAAGACGAGAGTCTGGTGTATTT GTGCTACACGGTCTCCAGAGAAGATGGCTCGTTCTCTTTCTATTCCTTGCCAAGTGGGGGCTACACTGTGATTCC $\tt GTTCTATCGAGGGGAGAGGATTACCTTTGATGTGGCGCCTTCCAGACTTGACTTCACAGTGGAGCATGACAGCTT$ GAAAATCGAGCCCGTGTTCCACGTCATGGGATTCTCCGTCACCGGGAGGGTCTTGAACGGACCCGAAGGAGATGG TGTTCCAGAAGCAGTAGTCACCCTGAATAACCAAATCAAAGTTAAAACAAAAGCTGATGGCTCATTCCGCCTTGA GAACATAACCACAGGGACATACACCATCCATGCTCAGAAAGAGCACCTCTACTTTGAAACGGTCACCATCAAAAT CTTCCCCGACACCGTCAAGCAGATGAATAAATACAAAGTTGTCCTGTCATCTCAAGACAAGGACAAGTCTTTGGT CACCGTGGAGACAGATGCTCATGGATCATTTTGTTTTAAAGCAAACCCAGGGACTTACAAAGTGCAGGTGATGGT TCCTGAGGCAGAAACCAGAGCAGGGCTGACGTTGAAACCCCAGACATTTCCTCTTACTGTGACCGACAGGCCTGT GATGGATGTGGCCTTTGTACAGTTCTTGGCATCAGTTTCTGGGAAAGTCTCTTGTTTGGACACCTGTGGTGACTT GCTGGTGACTCTACAGTCCCTGAGCCGCCAGGGTGAGAAGCGGAGCCTCCAGCTCTCCGGCAAGGTCAACGCCAT CAAGAGCCTGGAGGTGGAAGTGCTGGAGGATGACGTGTCTGCAGTTGAGTTCAGGCAGACGGGCTACATGCTGAG ATGTTCCCTGTCTCACGCCATCACTCTGGAATTTTATCAGGATGGAAATGGGCGTGAGAATGTGGGGATTTATAA CCTCTCCAAAGGAGTCAACCGATTCTGCCTGTCCAAGCCTGGTGTACAAAGTGACCCCTCGCTCCTGCCACCG GTTTGAGCAAGCGTTCTACACCTATGACACGTCTTCACCTAGTATCTTGACATTGACAGCCATTCGCCACCATGT CCTTGGAACTATCACCACCGACAAAATGATGGATGTCACTGTGACTATCAAGTCTTCCATCGACAGTGAACCCGC TGAGTTACAAGGCCCCTTCTCGTATGATTTCTCTTACTGGGCGCGGTCTGGAGAAAAATCACTGTTACACCGTC ATCTAAAGAGCTGCTCTTTTATCCCCCTTCAATGGAAGCCGTTGTCAGTGGAGAAAGCTGCCCAGGGAAGCTGAT CGAGATCCACGGGAAGGCAGGCCTGTTTTTAGAAGGCCAGATCCACCCCGAGTTGGAAGGAGTCGAGATTGTCAT CAGTGAAAAGGGGGCAAGTTCACCGCTGATCACAGTCTTTACTGATGACAAAGGTGCCTACAGTGTTGGCCCCCT AGACTTCAAGGCCTATGCCCTGGCAGGCGTAAGCTTTGAGATAAAAGCTGAGGATGACCAGCCCCTCCCGGGAGT CCTCTTATCCCTGAGCGGTGGCCTGTTTCGTTCCAACCTCTTGACCCAGGACAACGGAATTCTGACATTCTCAAA ACGTGTTGCTTGACAACGTGAGAAGAGAAGGCCAATGTGGAGTGGTTTCAGTTTCT

AGCCGCCTCTGCCGCCGCCGCCGCTTGGCCTCGCCCCCTGCTCGGACACCATGCCACAAGGAGAGTGATCTC TTCCCCTGTTTTCACAATGGAGGACTCCGGAAAGACTTTCAGCTCCGAGGAGGAAGAAGCTAACTATTGGAAAGA TCTGGCGATGACCTACAAACAGAGGGCAGAAAATACGCAAGAGGGAACTCCGAGAATTCCAGGAGGGAAGCCGAGA ATATGAAGCTGAATTGGAGACGCAGCTGCAACAAATTGAAACCAGGAACAGAGACCTCCTGTCCGAAAATAACCG CCTTCGCATGGAGCTGGAAACCATCAAGGAGAAGTTTGAAGTGCAGCACTCTGAAGGCTACCGGCAGATCTCAGC CTTGGAGGATGACCTCGCGCAGACCAAAGCCATTAAAGACCAATTGCAGAAATACATCAGAGAGCTGGAGCAAGC AAATGACGACCTGGAAAGAGCCAAGCCGCCACGATCATGTCTCTCGAAGACTTTGAGCAGCGCTTGAATCAGGC CATCGAAAGAAATGCCTTCCTGGAAAGTGAACTTGATGAAAAAGAGAATCTCCTGGAATCTGTTCAGAGACTGAA GGATGAAGCCAGAGATTTGCGGCAGGAACTGGCCGTGCAGCAGAAGCAGGAGAAACCCAGGACCCCCATGCCCAG CTCAGTGGAAGCTGAGAGACACAGCTGTGCAGGCCACGGGCTCCGTGCCGTCCACGCCCATTGCTCACCG AGGACCCAGCTCAAGTTTAAACACCCTGGGAGCTTCAGACGTGGCCTGGACGACTCCACCGGGGGGACCCCCCT CACACCTGCGGCCCGGATATCAGCCCTCAACATTGTGGGAGACCTACTGCGGAAAGTCGGGGCACTGGAGTCCAA ACTCGCTTCCTGCCGGAACCTCGTGTACGATCAGTCCCCAAACCGAACAGGTGGCCCAGCCTCTGGGCGGAGCAG CAAGAACAGAGATGGCGGGGAGAGACGGCCAAGCAGCACCAGCGTGCCTTTGGGTGATAAGGGGTTGGACACGAG $\tt TTGCCGCTGGTTGTCCAAATCAACCAGGTCGTCCAGCTCCTGC\underline{TGA} \tt AGCCTGTTCTTGGTCTTTTCCAGTTT$ ATCATACGCGGCCGCCTTCTCCTCGTACTGCTGGGTGAGGTTCTCGATCTCCTTCTGGAACCTCTTCTTCCCCTC TTCCAGAGCTTCCACGGTGCTGGCAAAGTCCTGCAGCTTCTTCTTCGAGTCGGAGAGCTACAAGGACAGCGTCCA GGGTAGGGTGAGAGGGGGACCATGAATGGCCCCTGTCCCTGGCCCCACAGACTCTGAGAAGCGAAGACCATGTCT CCTCGTTGGAGAAACCCAATAGCAGGGGAAGCTGGGGGGTCAAGCACCATCGCACCAACACTCCACCGCGATCTG GTTGAGAGTGGAGATGTGGCGCTCCAGGTTCTGCTTGGCCTCCATCTCCTCGTCCAGCTGGTCTTGCAGGCTGTT CCGCTCCTCCAGCTGGCGCAGCTTCGTAGACACGTTGAGCTTCTGCCGGGTTTCTTCTTGAAGCAGCTCCTG CAAAAGGGATGCAAAGAGGTCCCAGGGACCTGCCCCGAGGAAGGCCACCCCCAGGTCCCCTGGATGATGTGGCA CGGCCTCGTTAAGCATCCCTGTGACGCTCTCAACTTCATCTAAGGGTGCCAAGAGACTGGTTAGTCAAAGCCTC TAGAAGGGGATCCTCGTTGAAAGGAGCCCTTTTTACTCAAAACACATGGGCTAGTACTTGAGGTGTTCACTGATT

MEDSGKTFSSEEEEANYWKDLAMTYKQRAENTQEELREFQEGSREYEAELETQLQQIETRNRDLLSENNRLRMEL ETIKEKFEVQHSEGYRQISALEDDLAQTKAIKDQLQKYIRELEQANDDLERAKRATIMSLEDFEQRLNQAIERNA FLESELDEKENLLESVQRLKDEARDLRQELAVQQKQEKPRTPMPSSVEAERTDTAVQATGSVPSTPIAHRGPSSS LNTPGSFRRGLDDSTGGTPLTPAARISALNIVGDLLRKVGALESKLASCRNLVYDQSPNRTGGPASGRSSKNRDG GERRPSSTSVPLGDKGLDTSCRWLSKSTTRSSSSC

FIGURE 4329

GGCTGGGGAAACAGAAACTCGCAGAAGTTAAAAAAATGTGCTTGAGGTGCCACTGGAGAATAACAATCATAGCCA GGATCTGAAGCCTGTCAGTTTCCTCAGCCGCAAATTCTTCCATGTGGGGCGACCTCACAGAGACGGGATGTATGG GACGGCGGAGTGCAAAGAAAGATCAGCTGGACATCATCTCCATGGCGGAGACAACCATGATGCCAGAGGAGATTG AGCTGGAGATGGCAAAAATTCAGCGTCTCCGGGAAGTCTTGGTCCGCCGGGAGTCTGAGCTCAGGTTCATGATGG TCCTGGTGGACGATGCGGAGGTCGAGCGGTTAAGGGAGCAAGAAGAAGACAAGGAAATGGCTGATTTCCTGAGAA $\tt CTAGCAAGCCCACGGTGGCCAAGACGGGGCTGGCACTGATCAAGGATTGTTGCGGGGCCACCCAGTGCAACATCA$ CGGGGCCCAAGAGCTCTCCAAGGCAGAAGGGGTTGAAGGCAAGCCCGTGACTGTCACCAGAGGCCATGGGCACGG CAGGCGGGCCTGGCCACCCTGTACAGAGTGTAGCAGTAGGGAGTCTCTCACCGTCGCATGGTCCTCCCCAGAGCA CTTCTCTAGCTGTATCTAACCCACCGTGTGAATGAACTGGGAGAGGGGCATGCTCCCCAGCTGTGTGTAGTCG TGACTTCTCAACAATCTAGCACCATGTCGGACACGTTCCCCATCCACCCTCCTAGCTCTCCTCAGAGCTAGGC ACATGGGCACAGGTCCCCTCCCGTCTGTCCTCCCAGCAACTGTGCCCTGGAGGGCTCCACATGGCCCCCGTGT ACATCTCCCGCTTCCCCCCATCCTGTGTCTGGGCACAGTTCACATCAGGACAGCGTCCATTGTGCTCTCAGTCTG CCTCAGGTGTGCCTGGAGGGGGCCTGGACTGGCATGGATCCAGTGTGCAGAAGAGCCAGCAGGGAACCGGAAG CTCTGATGTCAAGGCCAGAGCAGTTGAGAATGGGACCCAGAGTAGATGCTGACCTGGGCACTCCACCATTCCGGG GCCACCACAGAGATGCCAGGATGCCACTTTGCCAGCCCGACACGGACCTTTGTAAAGAACAGCAACAGGC AGGAGAGGCAGCGTGTGACCAGATTGTCCCCGTCATTGGGTGGCATATGTTAACTAGCTGCCAAACAACTTCAA CGTGACCAGCCTAAGTAGTTAGCATAACTCAAGATGCTGATGTGCAGTCACCCATCAGAGAAAATAAAAATGGAA TTTTAAAAGTACAAAAAGTATGAAGAAGTTTGTCTT

#698/6881 FIGURE 4331

MYRTEIRMARMARKAGNFYVPAEPKLAFVFRIRGINGVSPKVRKMLQLLCLRRVFNGTFVKLNKASINMLRIVEP YTAWGCPNLKSVNELIYKRGYGKINKKQIALTDNALIARSLGKYGIICMEDLIHEIYTVGKHFKEANNFLWPFKL SSPRVGMKKKTTHLVEGGDAGNREDKINRLIRKMNQGVYHDYFSKLVG

AGCACCAACCTGCTGGCTGCAGAGACTGCAAGTCTGGAAGAACAGCTGCAAGGATGGGGAGAAGTGATGCTGATG ${\tt GCTGATAAAGTCCTCCGATGGGAAAGAGCCTGGTTTCCACCTGCCATCATGGGTGTGTTTCTTGGTGTTTCTG}$ ATTATCTACTATCTAGATCCATCTGTTCTGTCCGGCGTTTCCTGTTTTGTTATGTTTTTTGTGCTTGGCTGACTAC CTTGTTCCCATTCTAGCGCCTAGAATTTTTGGCTCCAATAAATGGACCACTGAACAACAGCAAAGATTCCATGAA ATTTGCAGCAATCTAGTAAAAACTCGACGCAGAGCTGTGGGTTGGTGGAAACGCCTCTTCACACTAAAGGAAGAA CTGCTTCTCACCTACCTGATAGTGACTTCCTTACTATTGCTTCCTGGACTAAACCAACATGGAATCATTTTGAAG TTTAATCAGTGTGATTAATGCAGCACCCATTGCCCCGGGAACCGTTTCTGCTGTACTATCTGGATACTAAAATGT TACGGAAGTAGCTCTTTGTTCTCCCTCACTCTGCCCTTAGTTAATAGAAATTCAGACTCGCCAAGTAAGGCTTCG TGCATAGTGTCTCATGTCGCGTATAGTTGAGCGCGTTCTTAGCAGTTGGCTTCATGGACAACTCATTAGTGTTT TGACTTTTCTTACCCAGCGTTAATTGAATTCTTGCTTTTAGACAACTTCCTTTTTGTAGTGGTGAACCTTGCCCT TTAGTACAGTTCAAGTGAATCTGGATAATTGTTCATCTTTGCTTTAGCTTAGATACCATGTAGTGGTCTGTGGCT ACAGGAAGCTGGTTCTGCTTCCACAGTCTGCTTAAAAAACTGTCTGACTTCGTGAATATAGAGACCAAGTT GAAATAAGATGAAACTGATTCCATGCACTAGTACATGTAGGCTTCTCCCTTGTGCAAAGCTTAGCAATTTGTAGG AAACTTTGATCTTTTTGTCCAAGAAAAGGAATGTCTGACAGGCTTAAGCTTTCGTCCCCTTGCACTTAGACTCGA AGTTAGTAAATCCTTAAAGGCTTTTTAATAGCAGACTTCCAAAAGATTGCATTTAGGATTTCTAGCATGCTTTTA ATTTCAGATTTTCAGCTGACATTAGCTATAGTATACAGTAGGTTAAGACTCATGTCTATGACTTTCACTCTAAGA CTGGCAAAAGGACAGCAGTCTTCTATGTTTAGTCAATATTCATTTCAGTAGAAGATAATCTTATCTAATTTTTGA GACCAGAATAAGCCTTTTAAGGTAAACCTCAAAATTATCATTTTATGGTAATACTGACCATTTTAGTCCCCTAGG TTTGACATGGGAGATAGTGACTACACTGGTGTCTGACTTTTTTCCTAGAGATTTCTCCCTGAAAAAATACAAGGGC TGTTGGTGAGAGCAGACTTGAGGTGATGATAGTTGGCCTCTGGTCTACAAAGATTTCATAACTCCTTGGAAAGCT TCTTATAATCATTCTTAACTTCTTGGTAGCTAGAAATTTAGAGTAGTTGAAATCTTTAGGAATGAACTTCTGAGG GCCAAAAAATGTGACTGACGGGAACAATTCTTAAACTGATTAACTAGCTGTAATATAGTTTTGTGAATTTATTGC ACTGATGTTGTACCTTGTGGTATATCTGTCCCTATTAAATAAGTGTTGTTTTCTCCTCTTTAATATTGCTGTGAA CAGTTTTAATCCTGTATTATTTCTTCTACTTTGTTTTTGTGTAAAAGGGGGAAAAAATAAAAAAAGCTGGAATCTTC **ATGTCTC**

 ${\tt GCCCCAGGAGCCCGGCGGGTCCGGGACTCCCGTCCGTGCCGGTGCGGGCGCCGGC} \underline{{\tt ATG}} {\tt TGGCTGTGGGAGGACCA}$ GGGCGCCTCCTGGGCCCTTTCTCCTTCCTGCTGCTAGTGCTGCTGCTGGTGACGCGGAGCCCGGTCAATGCCTG CCTCCTCACCGGCAGCCTCTTCGTTCTACTGCGCGTCTTCAGCTTTGAGCCGGTGCCCTCTTGCAGGGCCCTGCA GGTGCTCAAGCCCCGGGACCGCATTTCTGCCATCGCCCACCGTGGCGGCAGCCACGACGCCCCGAGAACACGCT GGCGGCCATTCGGCAGCCAGCTAAGAATGGAGCAACAGGCGTGGAGTTGGACATTGAGTTTACTTCTGACGGGAT TCCTGTCTTAATGCACGATAACACAGTAGATAGGACGACTGATGGGACTGGGCGATTGTGTGATTTGACATTTGA ACAAATTAGGAAGCTGAATCCTGCAGCAAACCACAGACTCAGGAATGATTTCCCTGATGAAAAGATCCCTACCCT AAGGGAAGCTGTTGCAGAGTGCCTAAACCATAACCTCACAATCTTCTTTGATGTCAAAGGCCATGCACACAAGGC AGAAGTTATCTACAAGATGAGACAAACAGATCGGGATGTAATAACAGCATTAACTCACAGACCTTGGAGCCTAAG CCATACAGGAGATGGGAAACCACGCTATGATACTTTCTGGAAACATTTTATATTTGTTATGATGGACATTTTGCT CGATTGGAGCATGCATAATATCTTGTGGTACCTGTGTGGAATTTCAGCTTTCCTCATGCAAAAGGATTTTGTATC GAGTTACTACGAATCCCATCTTGGTTCCAGCTATATCACTGACAGCATGGTAGAAGACTGCGAACCTCACTTC<u>TA</u> **GACTTTCACGGTGGGACGAAACGGGTTCAGAAACTGCCAGGGGCCTCATACAGGGATATCAAAATACCCTTTGTG** CTAGCCCAGGCCCTGGGGAATCAGGTGACTCACACAAATGCAATAGTTGGTCACTGCATTTTTACCTGAACCAAA GCTAAACCCGGTGTTGCCACCATGCACCATGCCAGGGTTCAACACTGTTGCTCTTGAAAATCTGGGTCTG AAAAAACGCACAAGAGCCCCTGCCCTGCCCTAGCTGAGGCACACAGGGAGACCCAGTGAGGATAAGCACAGATTG GCCACACTTATTCAAATATTTGTACTCAGCTATGTTAACATGTACTGTAGACATCAAACTTGTGGCCATACTAA TAAAATTATTAAAAGGAGCACTAAAGGAAAACTGTGTGCCAAGCATCATATCCTAAGGCATACGGAATTTTGGGGA AGCCACCATGCAATCCAGTGAGGCTTCAGTGTACAGCAACCAAAATGGTAGGGAGGTCTTGAAGCCAATGAGGGA TTTATAGCATCTTGAATAGAGAGCTGCAAACCACCAGGGGGCAGAGTTGCACTTTTCCAGGCTTTTTAGGAAGCT CTGCAACAGATGTGATCTGATCATAGGCAATTAGAACTGGAAGAAACTTCCAAAAATATCTAGGTTTGTCCTCAT GCTCATGCCGATAATCCCAGCAATTCAGAAAGCTGAGGCAGGAGGATTACTTGAGGCCAGACTGGGCAATATAGC AAGACCCCATCTCTAAAAAATTAGGCATGGTGGTGCATGCCTGTATTCCCAGCTACTCAGGAGGTTGAGGTGGGA GGATCACTTGAGCCCAGAAGTTCAAGGCTGCAATGAGCCATGATTACACCACGGCACTACAACCTTGGTGGCACA GTGAGAACCTGACTCTTAAAAAAAAAAAAAAAAAAAA

MWLWEDQGGLLGPFSFLLLVLLLVTRSPVNACLLTGSLFVLLRVFSFEPVPSCRALQVLKPRDRISAIAHRGGSH DAPENTLAAIRQAAKNGATGVELDIEFTSDGIPVLMHDNTVDRTTDGTGRLCDLTFEQIRKLNPAANHRLRNDFP DEKIPTLREAVAECLNHNLTIFFDVKGHAHKATEALKKMYMEFPQLYNNSVVCSFLPEVIYKMRQTDRDVITALT HRPWSLSHTGDGKPRYDTFWKHFIFVMMDILLDWSMHNILWYLCGISAFLMQKDFVSPAYLKKWSAKGIQVVGWT VNTFDEKSYYESHLGSSYITDSMVEDCEPHF

CTCTTTCCGCCATCTTTCCGCGCCGCCACAATGGTGCGCATGAATGTCCTGGCAGATGCTCTCAAGAGTATCAA CAATGCCGAAAAGAGAGGCAAACGCCAGGTGCTTATTAGGCCGTGCTCCAAAGTCATCGTCCGGTTTCTCACTGT GATGATGAAGCATGGTTACATTGGCGAATTTGAAATCATTGATGACCACAGAGCTGGGAAAATTGTTGTGAACCT CACAGGCAGGCTAAACAAGTGTGGGGTGATCAGCCCCAGATTTGACGTGCAACTCAAAGACCTGGAAAAATGGCA GAATAATCTGCTTCCATCCCGCCAGTTTGGTTTCATTGTACTGACAACCTCAGCTGGCATCATGGACCATGAAGA AGCAAGACGAAAACACACAGGAGGGAAAATCCTGGGATTCTTTTTCTAGGGATGTAATACATATTTTACAAATA AAATGCCTCATGGACTCTGGTGCTTCCACTTGGTCGTTTTTGAGCCTTTACAGCAGTGTAGCCACAGCTTCTGCGG CAGCATGCAGTTGCTTCGTTTATCGGTGAATGCGATTCCCAGATTCAAGTAGTTCTCGTGCCTCAGCCTCCTGAG TAGCTGGGATTACAGGTGTGTGCCACCATGTCTGGCTGATTTTTGTATTTTTAGTAGAGGTGGGGTTTCACCATG TTGGCCAGGCTGGTCTCGAACTCCTGATCTCAAGTGATCTGCCTTGGTCTCCCAAAGTGCTGGGATTACAG GTGTGACCACCACGCCCTGCCTTAAGAATTGTTCCAAGAGAATCTGGTGCCACTTGCAGGTGCCCATTGAAGTGC AATGGGCACTGTTGATCACTGAGGAGGTAGTGGGTGCTGACCCGGTGCTGGGGCCTGTCCCCTAGTCTCTGCTTT ${\tt GCCCTTGGCTAGCTAGGTGGTGCCAAGTGGGGAGAGAGCTACCTTATTAAGGGGCATGGATCAGCTTCCTGA}$ ${\tt AAGGAGGCCTGCCTCTGTAAGATATGGGAAGTCGCTGAGAATGTTACAGAACGGCCCTAGAGATGGGGCAGATA}$ ${\tt ACGGCCCCATITGTGAGAAGTGAGTTGGGAGGCATGTTTGGGGCCTCTGATGTTTGGGAGGCTGTGGGTAATTA}$ ACATGAGTTTTGGGGTCCAGCAGCAGAATTCAGGTTTCCTCTTCCACTCAGTAACCTCAGCATCCGTATCTGTAA TGGGAATGATACAAAACCTATCCCCAAGTTGAGGGAAAAATGAGATTGTGTAAAGCGCACTTGGCACATGACAGT CACAAGCATGGGGACAGTGAGTCCAGAAGGATTTTCTTATGCCAGCATTGTAAGCCCTAGGATCACAGGGCTCTG GCTTGTTTAACCATCGTGTCTCTGGTCCCTAGCCTGCAAACCTGGTGTGTAGGGATGCCTCAGTCGCTTACATGT TGATTGAGTGAATCGTCGGTTTCTTTCTGGACACTGACTTCAAAAATAAA

CGCAGAGTCCCCGGGCCAAG<u>ATG</u>GCTGCGCGGTGCTCCACACGCTGGTTGCTGGTGGTTGTGGGGGACCCCGCGGC GCGTCCCCGCCTTTGCGTCTTCCCTGACCTCTTGCGGCCCCCGAGCGCTGCTGACATTGAGACCTGGTGTCAGCC TTACAGGAACAAACATAACCCTTTCATTTGTACTGCCTCCTTCCACACGAGTGCCCCTTTGGCCAAAGAAGATT ATTATCAGATATTAGGAGTGCCTCGAAATGCCAGCCAGAAAGAGATCAAGAAAGCCTATTATCAGCTTGCCAAGA AGTATCACCCTGACACAAATAAGGATGATCCCAAAGCCAAGGAGAAGTTCTCCCAGCTGGCAGAAGCCTATGAGG TTTTGAGTGATGAGGTGAAGAGGAAGCAGTACGATGCCTACGGCTCTGCAGGCTTCGATCCTGGGGGCCAGCGGCT CCCAGCATAGCTACTGGAAGGGAGGCCCCACTGTGGACCCCGAGGAGCTGTTCAGGAAGATCTTTGGCGAGTTCT CATCCTCTTCATTTGGAGATTTCCAGACCGTGTTTGATCAGCCTCAGGAATACTTCATGGAGTTGACATTCAATC AAGCTGCAAAGGGGTCAACAAGGAGTTCACCGTGAACATCATGGACACGTGTGAGCGCTGCAACGGCAAGGGGA ACGAGCCCGGCACCAAGGTGCAGCATTGCCACTACTGTGGCGGCTCCGGCATGGAAACCATCAACACAGGCCCTT TTGTGATGCGTTCCACGTGTAGGAGATGTGGTGGCCGCGCCTCCATCATATCGCCCTGTGTGGTCTGCAGGG GAGCAGGACAAGCCAAGCAGAAAAAGCGAGTGATGATCCCTGTGCCTGCAGGAGTCGAGGATGGCCAGACCGTGA GGATGCCTGTGGGAAAAAGGGAAATTTTCATTACGTTCAGGGTGCAGAAAAGCCCTGTGTTCCCGGAGGGACGGCG CAGACATCCACTCCGACCTCTTTATTTCTATAGCTCAGGCTCTTCTTGGGGGTACAGCCAGAGCCCAGGGCCTGT CCCGGATTAACAGCTACGGCTACGGAGACCACTACATCCACATCAAGATACGAGTTCCAAAGAGGCTAACGAGCC GGCAGCAGAGCCTGATCCTGAGCTACGCCGAGGACGAGACAGATGTGGAGGGGACGGTGAACGGCGTCACCCTCA CCAGCTCTGGTGGCAGCACCATGGATAGCTCCGCAGGAAGCAAGGCTAGGCGTGAGGCTGGGGAGGACGAGGAGG GATTCCTTTCCAAACTTAAGAAAATGTTTACCTCA<u>TGA</u>TATCCCAGCCGAGGAAAAAGATCCACTGGAAACTAGG CCGGGAAGCAGCACCCCCCCAAGGGCCAGGGCACCTGGGAGACGGGAGGATTCCAGAACAGCACCAGAGCTC CCACCCGCAGAGCCTCTGGACGGCCTTGGCAACAGCAAAATCATGGGACAACACCTCTCTCCACGGAAAGGTCAC AGTGGACAGCCCGGGCAGTAGGATGCAGCCCCAGAGGCTGGTGGCAGTTTCCTGTCCATTGGTAGGTGACGGCCC CTGGCTCAGGCAGAGGGAGATGGTTAGACTCTTGCAGGGCTAAAACTCTAATTTGGAATTGAATATTGTGGATAT CTTAGTTAAAGGCCATGCTTACAGCTTAGAAATGAAGCCTTAAGCTGCATCAAGTTACGAAGTGATTAATTTCCT TCTCAGCAAACCTCCGGGAGGTTCCAGAATGAGTTCTTCCTGACAGGTTGTCTTCACTGGGAGCGTGGGGCCCCC TTCCCGGGGTACCAAGCAGCTGCACAGTCGGTGCCTGGGAGGCACGTAGAGGCCCCAGAGAGTCCCTGGGGGTTCT GCTCTGACCGTGTGGGTGGTGATCCTTGTCAGGATGTACAGTCCTTGCTCCCACCCCATCCGGGATGGCCGCCTG TCCCTGACTATTGAGTCCTGTTGTTGTAAGCCAGGCATGGAGGGCTCCTGCCCTTCTGCTGAGCCACAGCCCATT GCAGCACTGTGCTGGCCAGACTTCAGCTGCCTTGGGAACTGAAGCCCTGCCACTGTTGCTAGTCAGGGGCTTGGT TCTCCCACTTACACTGTTGACATCTATTTTCTGAAGTGTTTTAAATTATTCAGTGCTAATCATTGTTTTTCCT TTGTAAATGTTGATTCAGAAAAGGAAAGCACAGGCTAAGCAGTTGAAGGTTCCCCACCATTCAGTGAGAGCAGAA AGGTTAATGAAGAACACTTCTCAACAGTTTCCTTTTTGTTTTCCTTTATAATTCACTAAAATAAAGCATCTATTA GTGTCTG

MAARCSTRWLLVVVGTPRLPAISGRGARPPREGVVGAWLSRKLSVPAFASSLTSCGPRALLTLRPGVSLTGTKHN
PFICTASFHTSAPLAKEDYYQILGVPRNASQKEIKKAYYQLAKKYHPDTNKDDPKAKEKFSQLAEAYEVLSDEVK
RKQYDAYGSAGFDPGASGSQHSYWKGGPTVDPEELFRKIFGEFSSSSFGDFQTVFDQPQEYFMELTFNQAAKGVN
KEFTVNIMDTCERCNGKGNEPGTKVQHCHYCGGSGMETINTGPFVMRSTCRRCGGRGSIIISPCVVCRGAGQAKQ
KKRVMIPVPAGVEDGQTVRMPVGKREIFITFRVQKSPVFRRDGADIHSDLFISIAQALLGGTARAQGLYETINVT
IPPGTQTDQKIRMGGKGIPRINSYGYGDHYIHIKIRVPKRLTSRQQSLILSYAEDETDVEGTVNGVTLTSSGGST
MDSSAGSKARREAGEDEEGFLSKLKKMFTS

PCT/US2003/028547

4707/6881 FIGURE 4340

ATGCTGGACAAGAAACTGGTGGTGTTTTCGGAGGCACAGGTGCCCAGGGTGGCTCCGTGGCCCGCACACTCCTG
GAAGATGGGACATTCAAGGTTCGAGTGGTGACCCGAAACCCTAGGAAGAAGGCAGCAAAGGAGCTGAGGCTGCAA
GGTGCAGAAGTAGTGCAGGGAGACCAAGATGACCAGGTCATCATGGAGCTGGCCCTGAATGGGGCTTACGCCACC
TTCATCGTGACCAATTACTGGGAGAGCTGCAGCCAGGAGCAGGAGCTCAAGCAGGGGAAGCTGCTCGCTGATCTG
GCCAGGCGCCCTGGGCCTCCACTATGTGGTCTACAGCGGGCCTGGAGAACATCAAGAAGCTGACGGCAGGGAGATTG
GCCGCCGCGCACTTTGACGGCAAAGGGGAGGTGGAGGAATATTTCCGGGACATTGGCGTTCCCATGACCAGTGTG
CGGCTGCCCTGCTATTTTGAGAACCTCCTCTCCCACTTCTTGCCCCAGAAAGCCCCAGACGGAAAAGACTACTTG
CTGAGCTTGCCCACAGGTGACGTTCCCATGGATGGCATGTCCGTGTCTGACCTGGGTCCTGTGGTGCTCAGCCTT
TTGAAGATGCCAGAAAAATACGTCGGCCAGAACATCGGGCTGAGCACTTGCAGGCACACGGCCGAGAAAGCTTCGC
GCCCTGCTCACCAAGCACACCCGCAAGGTCGTGCACGATGCCAAGATGACTCCTGAGGACTACGAAAAGCTTGGC
TTTCCCGGTGCCCGGGACCTGGCCAACATGTTCCGTTTCTTATGCCCTGAGACCCGACCGTGACATCGAGCTGACC
CTGAGACTCAACCCCCAAGGCCCTGACGCTGGACCAGGTGGCTGGAACAGCACAAAGGGGACTTCAACCTGCTGTGAAC

MVDKKLVVVFGGTGAQGGSVARTLLEDGTFKVRVVTRNPRKKAAKELRLQGAEVVQGDQDDQVIMELALNGAYAT FIVTNYWESCSQEQEVKQGKLLADLARRLGLHYVVYSGLENIKKLTAGRLAAAHFDGKGEVEEYFRDIGVPMTSV RLPCYFENLLSHFLPQKAPDGKSYLLSLPTGDVPMDGMSVSDLGPVVLSLLKMPEKYVGQNIGLSTCRHTAEEYA ALLTKHTRKVVHDAKMTPEDYEKLGFPGARDLANMFRFYALRPDRDIELTLRLNPKALTLDQWLEQHKGDFNLL

GACCAGAGGAGCGAGAGCAAGAACCACACCCAGCAGCAATGTCAGCGGAAGTGGAAACCTCAGAGGGGGTAG ACGAGTCAGAAAAAAAGACTCTGGGGCCCTAGAAAAGGAGAACCAAATGAGAATGGCTGACCTCTCGGAGCTCC TGAAGGAAGGACCAAGGAAGCACACGACCGGCCAGAAAACACCCAGTTTGTCAAGGACTTCTTGAAAGGCAACA TTAAGAAGGAGCTGTTTAAGCTGGCCACCACGGCACTTTACTTCACATACTCAGCCCTCGAGGAGGAAATGGAGC ${\tt GCAACAAGGACCATCCAGCCTTTGCCCCTTTGTACTTCCCCATGGAGCTGCACCGGAAGGAGGCGCTGACCAAGG}$ ACATGGAGTATTTCTTTGGTGAAAACTGGGAGGAGCAGGTGCCGCCAAGGCTGCCCAAGAGTACGTGGAGC GGATCCACTACATAGGGCAGAACGAGCCGGAGCTACTGGTGGCCCATGCATACACCCGCTACATGGGGGATCTCT CGGGGGCCAGGTGCTGAAGAAGGTGGCCCAGCGAGCACTGAAACTCCCCAGCACAGGGGAAGGGACCCAGTTCT ACCTGTTTGAGAATGTGGACAATGCCCAGCAGTTCAAGCAGCTCTACCGGGCCAGGATGAACGCCCTGGACCTGA ACATGAAGACCAAAGAGGAGGATCGTGGAGGAGGCCAACAAGGCTTTTGAGTATAACATGCAGATATTCAATGAAC ${\tt TGGACCAGGCCGGCTCCACACTGGCCAGAGAGACCTTGGAGGATGGGTTCCCTGTACACGATGGGAAAGGAGACA}$ TGCGTAAATGCCCTTTCTACGCTGCTGAACAAGACAAAGGTGCCCTGGAGGGCAGCAGCTGTCCCTTCCGAACAG CTATGGCTGTGCTGAGGAAGCCCAGCCTCCAGTTCATCCTGGCCGCTGGTGTGGCCCCTAGCTGCTGGACTCTTGG CCTGGTACTACATGTGAAGCACCCATCATGCCACACCGGTACCCTCCTCCCGACTGACCACTGGCCTACCCCTTT CTCCAGCCTGACTAAACTACCACCTCAGGTGACTTTTTAAAAAATGCTGGGTTTAAGAAAGGCAACCAATAAAA GCCAGATGCTAGAGCCTCTGCCTGACAGCATCCTCTCTATGGGCCATATTCCGCACTGGGCACAGGCCGTCACCC TGGGAGCAGTCGGCACAGTGCAGCCTGGCCCCGACCCAGCTCTACTCCAGGCTTCCACACTTCTGGGCCC TAGGCTGCTTCCGGTAGTCCCTGTTTTTGCAGTACATGGGTGACTATCTCCCCTGTTGGAGGTGAGTGGCCTGTA AGTCCAAGCTGTGCGAGGGGGCCTTGCTGGATGCTGCTGTACAACTTCTGGGCCTCTCTTGGACCCTGGGAGTGA GGGTGGGTGGGTGGAAGCCTCAGAGGCCTTGGGAGCTCATCCCTCTCACCCAGAATCCCTCTAACCCCTTGGG TGCGGTTTGCTCAGCCCCAGCTTATCTCCTCCTCCGCGCTGTGTAAATGCTCCAGCACTCAATAAAGTGGGCTTT GCAAGCT

MSAEVETSEGVDESEKKNSGALEKENQMRMADLSELLKEGTKEAHDRAENTQFVKDFLKGNIKKELFKLATTALY FTYSALEEEMERNKDHPAFAPLYFPMELHRKEALTKDMEYFFGENWEEQVQCPKAAQKYVERIHYIGQNEPELLV AHAYTRYMGDLSGGQVLKKVAQRALKLPSTGEGTQFYLFENVDNAQQFKQLYRARMNALDLNMKTKERIVEEANK AFEYNMQIFNELDQAGSTLARETLEDGFPVHDGKGDMRKCPFYAAEQDKGALEGSSCPFRTAMAVLRKPSLQFIL AAGVALAAGLLAWYYM

4711/6881 FIGURE 4344A

CGGCCTGGTCCGGGCCATGTCCGCGTGAGGACCCCGCCGCTGTCGCCGCTCCCGTTCCGGCCCTGGCCCCTCTGC CCGGCAGCGCCGCGCACCATGGGCTCCATTCTCAGCCGCCGCATCGCGGGGGTGGAGGACATCGACATCCAGGCG AACTCGGCCTATCGCTACCCTCCGAAGTCCGGAAACTACTTTGCTTCGCACTTTTTCATGGGAGGAGAAAATTC GACACCCCCACCCTGAAGGTTACCTCTTTGGAGAGAACATGGATCTGAACTTCCTGGGCAGCCGCCCGGTCCAG TTTCCCTACGTCACTCCTGCCCCCCACGAGCCCGTGAAGACGCTGCGGAGCCTGGTGAACATCCGCAAAGACTCC CTGCGGCTGGTGAGGTACAAAGACGATGCCGACAGCCCCACCGAGGACGGCGACAAGCCCCGGGTGCTCTACAGC CTGGAGTTCACCTTCGACGCCGATGCCCGCGTGGCCATCACCATCTACTGCCAGGCATCGGAGGAGTTCCTGAAC GGCAGGGCAGTATACAGCCCCAAGAGCCCCTCGCTACAGTCCGAGACCGTCCACTACAAGAGAGGGGTGAGCCAG CAGTTCTCCCTGCCCTCCTTCAAGATTGACTTCTCGGAATGGAAGGATGACGAGCTGAACTTTGACCTGGACCGG GGCGTGTTTCCAGTAGTCATCCAGGCTGTGGTGGACGAAGGAGATGTGGTGGAAGTGACTGGCCACGCCCACGTG CTCTTGGCTGCCTTTGAAAAGCACATGGACGGCAGCTTCTCTGTGAAGCCTTTAAAGCAGAAGCAAATTGTGGAC CGGGTCAGCTACCTCCTGCAGGAGATCTATGGCATTGAGAACAAGAACAACCAGGAGACCAAGCCCTCGGACGAC GAGAACAGCGACAACAGCAACGAGTGTGTGTGTGCCTGTCCGACCTGCGGGACACGCTGATCCTGCCCTGCCGC CACCTGTGCCTCTGTACCTCCTGCGCCGACACGCTGCGCTACCAGGCCAACAACTGCCCCATCTGCCGGCTCTTT CCGGGCCCTCCTGCAGATCCGGGCGGTGCGGAAGAAGCCAGGAGCCCTGTCCCCCGTGTCCTTCAGCCCCGTCCT GGCCCAGAGCCTGGAGCA<u>TGA</u>TGAGCACTCTTGTCCCTTTAAAAAATCAAAGCCGCACCCCGCCTCCCTGGCCAG CAAGAAACCTAAAAGGGAAACAAACTCTGACAGCGTCCCACCTGGCTACGAGCCCATCTCGCTGCTCGAGGCGCT CAACGCCTCCGGGCTGTCTCCCCGGCCATCCCCTCGGCCCTCTTTATGAAGAAATCACCTATTCAGGCATCTC GGACGGCCTGTCCCAGGCCAGCTGTCCCCTCGCGGCTATCGACCACCTCTGGACAGCAGCCGCCAGAAGGGCAG GCCGCAGAGCCACCGACAGCACCCTACGGTCCCCGTCTTCCCCCATCCACGAAGAGGATGAGGAGAAGCT CTCCGAGGACGTGGACGCCCTCCCCCACTGGGTGGCGCAGAGCTGGCCCTGCGGGAAAGCAGCTCCCCTGAGAG TTTCATAACAGAAGAGGTTGATGAGTCGTCACCACAGCAAGGGACCCGAGCAGCTTCCATTGAGAATGTCCT GCAGGACAGCAGCCCGAGCACTGTGGCCGAGGCCCACCTGCTGACATCTACCTGCCAGCCCTGGGGCCCGACTC CTGCTCTGTTGGTATAGACGAGTAAGCCGGTACGTGACCTCCCAGACGCGCTTCGGGGGGCTCTGACGCGCGTCCT TCCCAGGGGCCCTGGATTCCGAATCCAGAGCTCTCCAGTGGCTGCTGCACCTTCCCCCAGAAAGTGGCCTCCTGG GGGGTCCTGACTTTCGGGGCCAGAGGTCTCTCCATCTGGACTAGGCGGCCGGTCAGGCTCTTCTTCCAGCCTTGA GGAGGCAGGAGCTTGAGGGATGAGGGCAGCACCGTGGAGGGAACCCCAGGGAGACATGGGGTGAGCGTCCCAAGG GGAGAGGCCTGGCCTTGTTCCGGATGGTCCCACCATGAGTTCGCATCGGTCCTGCAGCAGACACGTTAG GACGCTCAGCAGGTCCACTCCCGTGTTCCGGTCGTGGCTTTAACAATTCATGGGGAAAGAATGCGCCCCGATTGG GTGCCCAGGGGAGAGTATCTTGCGTCCTGTCCTGAGGGCGTCCGCTCACACAGCCACCTGCTCCCCCGCTCCCTC CTTCCCTTGTCAGCATGGCCACCGTGGGCCTGGCATCACCATGGGCCTGGCACACAGTCCCTCGTGGGCTGCCTT GATAGGAGGCCCTGTGAGGTTGGCATCCCCCATCCCCCAAGAGGCGCCCTCTACCAGGGTGGCCCAGGTGAGT GTTTTACAGAAGGCGGCTCTGTCCAGGCAGTGGTTCGCACCTATAAGCCCGGTACTTTGGGAGACCGAGGGGATA GATCACTTGAGCCCAGGAATTCAAGATCAGTGTAGAAAACATAGACCCCCTCTCTATGAAAAATAAAAATTGGC TTGGGCGTGGTAGCTTGTGCCTGTGGTCCCAGCTACTCAGGGGTGCTGAGGTGGGAGGATTGCCGGAGCTGGGGA GCAGCTCCAGGAGTGCCACCAAAATGTAGGCAGACGGATTGGGGACCCTCTGCCTTCCCAGAGGGTCTTGGCACA CAAGCTGCGTGCAGCTCTGGTCTGCCGAGGCCCATGCAGCCTGCTGGGAGGTGCCTGGCCGGGGTGCAGGCTCT AAGAGGCCCTTTCCCCTTGGGTGGACTTGAGCCGGGTCAGGGAGAACTTCGCTTCTTTTGACTGCGCTCTGCATT CCCATGAACCTCTGTCTTGAGCCCAGCGAGTCCCTCTGTTGACCCCTGTCCTGAGCCATTATACCCCTAGAT TGAAACAGTCAGCACCTTTCAGACGGCCCCGGCCTGCGCATCGGTGGAAGGTGCCGTGCGAATGTCACGATTCAG GTCAAGCTTCCGGAGCTGGGAGTGCAGGTGTGATCTAGAACAGGGCTCACAGCCTCGGAAACCTGCTCTCGCCG CGGCCCCGAAGAAAATAGACGCCCTTCACCGGAGAGTGGGGCCTGGGCCGTGTCTGCTGGGAGCCATGTGTCAG

4712/6881 FIGURE 4344B

GGCTGGTGGCTGGGTGTCAGGCAGCCCTGAGGCCATGCTGGCCCCGTCCCAGGCTCTGCACCAGCACCATTGCCC AAGCCCCAGGGACGCCAGACCCATCTGGGGACAGCGCCCGGCGGCGTCGTGCAGGCCACAGTCTGGGCATTGGGG CTCTGTGGGAGGCTCCTCTTTTGCCTTGCAGTAGCCATCCGGGGGCTACTCTGAGCACGGGCTTGTTCTCACCC AGGGCCGCTCCCCACCCCTGCACCCTGGGTTGACCGAGTTCCACCCTAACCCAGCCGTAAGAACCTTGGCAGGAC AGTGGCTGGCCACATCCCAGGAAACCGGAACCAGGGCAAGGGCAGGAGGCCCAGAGGGCATCCACCGCGGTGCCG TGTCGCGCTCTGACTCGGGGCTGCAGATCTGCTGTGGGTGTCCGGGGATCTGGGATCGTCTGTCCCAAGAGGGAC ACAGCGTATTTGGCACAGTTAGGGAGTCCCCGGGCCCTTGGTGTGCTCACATCTGAGTGAATGCTGTTGTGGCCA CAGGCGGCGGGAGTGGGGTGGTGGATGGCCCAGCCCCTCTGGGGCTCCAGATCGGTAGGAGCGGGTGGCGTGGC ACCAGGCATCCGAGTGTGACCCTCCTCCCTCTGCTCCCACCTGCAGGACGGCCCACCTCCATGGAGACGGCCCAC GGCCTCGCCACCAGCCCCACCTGGCCTCCACTTGGTGGCCCCAGCCCCGATCCCAGCGCCGCCGAGCTGACC CCACTCTGAGAGCCTGGCCGAGCTGGCAGCATGGAGCCCTCGGCTCCCCAGACTTTGCCGAGGGGCTGCTCCGGA TCAAAGAGCACAGTGAACTGTCCCTTCTGAGTCTCCCTTTTCTACAGTTGATATATTTGTAACTGGTACAAGATG AAGGACAGCAGCTTTCCATCCCTAGTTCAGAGCCCCCGTTCCCCAGGGTCCTGTGGGCTGAGCGGCTGGGGCTGG GGCTGCCCACGTGTGGCCTCCGCTGGCTCTGCTCCTGCAACAGTGCGGTCCCTGCCCGGAGAACTCAGGAG GCCTGCAGAAGAACTGATTGGTGGTCGAAGCACCATCTTCACAGATGTTCAGGGGGCAGTGGGGGGGCTCCAGGC ACGGTCAATGAAGGAAACAGTGCCTGTCCACCCACCCTGCGTGTCACTGTGGCGGCCTGGCTGTCTTTTT GTCCTCTGCCGTGTTTGCGCGGCCTCAGTGCCCTCCCTGGTGCGTCTGCGCTCGGGGCCCTCAGTGCTCGGGGCCCT TGGGGTGCATGGGTGCCGCCCTGGGCAGCTAGAGTGTCTCAGCCCGGTGCTGGGCCTGGCCGAGGGGCGGAGGCA CAGCTGCTTCCAGCAGCCAGCATTCAGTGGCCTTGTCACCAAGCTCCACACCTCCTGGTGCTGGCTTTGGTG ACATCACAAGGCCCCTCCAGGTGCAGGGGCTTCTGTTTGGCAGGCCCCTGCCAGGGAGGACCTGGTGGCCTCCTC TTGCTGCCCAGGCTGGAGTGCAGTGGCTCAATCTCGGGTCACTGCAACCTCCGCCTCCCGGGTTCAAGTGATCGT GTAGAGAAGGGATTTCACCATGTTGGCCGGGCTGGTCTCAAACTCCTAAGGTCATCCACCTGCCTCGGCCTCCCA GAGTGCTGAGATTACAGGCGTGAGCCTCCGCGCCCGGCCCCTTGCAGTTCTCTCTGATTTGGTTTGTTCTGTCT CGCAGATGGCAAAGGGAGTGCCTGGGCCTGGTGACCCAGGGCTGGATCCACCCCTGCGGAGCCCTGGGCCAGGCA GGTGTCTGCTCACCTGGCTCTGGAGGGCTGCCCTGCAGCTGGGGCCTGGGGACAGGTCGGCTGTGGGGCAGCT CAGTACCCTCCCTGAGGCTCACGGTGGCTCCGAGCATGAGGTCCGCCTCCTGGGCGAGACCCAGCAGTGGACAGC TCACACGTACACACACAAATGCACGCCCACTTGCACATGCTCACGCACATGTTCACACATGCACACTCACGCT GCCCCTGCACCGCCCGCCCCCCCCCCCACCAAGGCCCCAGCCTCTGGCCATCAGTCCTGGTGCCAGAGCTTTG CGTGAAGTTCGGGCCGCAGAGTGGCCCGCTGGGACTCCCATGTGCTGCCGTCTGATGTGCTCAGATGGGCTCATC GTTGGTTCGTTTTTACTGTATATTTATAGTAATAAAATCATGCAGC

MGSILSRRIAGVEDIDIQANSAYRYPPKSGNYFASHFFMGGEKFDTPHPEGYLFGENMDLNFLGSRPVQFPYVTP APHEPVKTLRSLVNIRKDSLRLVRYKDDADSPTEDGDKPRVLYSLEFTFDADARVAITIYCQASEEFLNGRAVYS PKSPSLQSETVHYKRGVSQQFSLPSFKIDFSEWKDDELNFDLDRGVFPVVIQAVVDEGDVVEVTGHAHVLLAAFE KHMDGSFSVKPLKQKQIVDRVSYLLQEIYGIENKNNQETKPSDDENSDNSNECVVCLSDLRDTLILPCRHLCLCT SCADTLRYQANNCPICRLFPGPPADPGGAEEARSPVPRVLQPRPGPEPGA

AGACGCCGGGGGCGGACGGAGGACCGGAGGACCGAGGACAGAAAGATTGGTGGACAGGAGCAGCGGCCGGTGGG GAGGAGTTCCGCTGCTGCACGACGACGACGTGCACGCTGTGTTGAAGCAGCTGCAGGACATCCTCAAGGAGGCC GGCACAGACCAGGTGAAGGGTGTGCTGACTCTGCAGGGGGGATGCCCTCAGCCAGGCGGATGTGAACCTGAAGATG CCCCGGAACAACCAGCTGCTGCACTTCGCCTTCCGGGAGGACAAGCAGTGGAAGCTGCAGCAGATCCAGGATGCC AGAAACCATGTGAGCCAAGCCATTTACCTGCTTACCAGCCGGGACCAGAGCTACCAGTTCAAGACGGGCGCTGAG GTCCTCAAGCTGATGGACGCAGTGATGCTGCAGCTGACCAGAGCCCGAAACCGGCTCACCACCCCCGCCACCCTC ACCCTCCCGAGATCGCCGCCAGCGGCCTCACGCGGATGTTCGCCCTGCCCTGCCGTCCGACCTGCTGGTCAAC GTCTACATCAACCTCAACAAGCTCTGCCTCACGGTGTACCAGCTGCATGCCCTGCAGCCCCAACTCCACCAAGAAC TTCCGCCCAGCTGGGGCGCGGTGCTGCATAGCCCTGGGGCCATGTTCGAGTGGGGCTCTCAGCGCCTGGAGGTG AGCCACGTGCACAAAGTGGAGTGCGTGATCCCCTGGCTCAACGACGCCCTGGTCTACTTCACCGTCTCCCTGCAG CTCTGCCAGCAGCTCAAGGACAAGATCTCCGTGTTCTCCAGCTACTGGAGCTACAGACCCTTCTGATCACAGCAC CAGGCTGCTATTTATCTCCCTATCCCACCCCTACCCCACCTAACACATTTGCACTGCCAGGAATGGACACTGGA AGTGCCAGGAGGAAGGCTGGTTTGGTGGGGTAGTGGGGAGGTCAGGGAGGCCGGGCCCAAGGGTGTCCCACA CTCCCCTTCGCTGTCCCCTCCCCTGGAGGGCATGGTGTCGGGGGGGTGGCACTGAGCTATGAGTCCCGGGGATGG TGAGGAACGCCACAGACAGACCCCTAGGAGTGAGTATAGTGCTGGTGACTGTTTTCATAGCCCCAGTCCAG

MATVMAATAAERAVLEEEFRWLLHDEVHAVLKQLQDILKEASLRFTLPGSGTEGPAKQENFILGSCGTDQVKGVL TLQGDALSQADVNLKMPRNNQLLHFAFREDKQWKLQQIQDÄRNHVSQAIYLLTSRDQSYQFKTGAEVLKLMDAVM LQLTRARNRLTTPATLTLPEIAASGLTRMFAPALPSDLLVNVYINLNKLCLTVYQLHALQPNSTKNFRPAGGAVL HSPGAMFEWGSQRLEVSHVHKVECVIPWLNDALVYFTVSLQLCQQLKDKISVFSSYWSYRPF

GTCATGGCGCCCGAGGAGAACGCGGGGACCGAACTCTTGCTGCAGAGTTTCGAGCGCCGCTTCCTGGCGGCACGC ACACTGCGCTCCTTCCCCTGGCAGAGCTTAGAAGCAAAGTTAAGAGACTCATCAGATTCTGAGCTGCTGCGGGAT TCAGAACTCATCAAAAAGCACGAGGCTGTCCACACAGAGCCTTTGGACGAGCTGTATGAAGCGCTGGCGGAGACC CTGATGGCCAAGGAGTCCACCCAGGGCCACCGGAGCTATTTGCTGCCCTCGGGAGGCTCGGTCACACTCTCCGAG AGCACGGCCATCATCTCCTACGGTACCACAGGCCTGGTCACATGGGACGCCGCCCTCTACCTTGCAGAATGGGCC ATCGAGAACCCGGCAGTCTTCACTAACAGGACTGTCCTAGAGCTTGGCAGTGGTGCTGGCCTCACAGGCCTGGCC ATCTGCAAGATGTGCCGCCCCCGGGCATACATCTTCAGCGACTGTCACAGCCGGGTCCTTGAGCAGCTCCGAGGG AATGTCCTTCTCAATGGCCTCTCATTAGAGGCAGACATCACTGCCAAGTTAGACAGCCCCAGGGTGACAGTGGCC GCTCCTGAGGTCTACGTGGCCTTTACCGTCCGCAACCCAGAGACGTGCCAGCTGTTCACCACCGAGCTAGGCCGG GCCGGGATCAGATGGGAAGTGGAACCTCGTCATGAGCAGAAACTGTTTCCCTACGAAGAGCACTTGGAGATGGCA ATGCTGAATCTCACCCTGTAGGACTCACACGCACTCCAACGGGATTGTGAGAATCAAGTCACTCTCATGGGAAG AATTTTTATATGGGAAAGCGGATAAAACTTTCATTGGACTGGAATGTTTGGAGAATGTTAATTTCCAAATCAGGA ACCACAAACTGCCCTCTAATAAGACATCGGCTATCTAAGCGTGTGGGTGCCCCCTTTCTGCCAGCAGTTCTGGTT CTTAAGAAAATCACCATAAATCAGACATGAAAATTCTGGCTCCAAAAATAGCATTTTCTTTGTGCAAATAAAAAC GTGTGTATCAAGTATGATGTTCCCCCAACGTGGACACACTCAGTTCCTCACAAAGCCAAGCCCACTGCAGCTGCC ACATCCCTGGGCTTACGGTGCAGCAGGTGCTTTTTTCAAGACAGGAATCAAAATGTTAGGAACACGGCAGAAAGG GGACACCTGGAGACCAAACGCAGGATGAGGAGTTCTGCAGAGGTCACAGGGAAGTCACAGAACAGTAATACGCTA GCAGGGGCATGGGGCGTGAAGAACAGAAGAAGAGAGGGAAGCGTTTCCAAGCCTCCAGAGAAAATCAAGGCCAA CCAAAGCTTCCCGGGTCACAGAACCAATTCTTTTACCAGGCAGTACCACTGCTGTCATTTCAGCTTCTGGCCACT GGGAGGTGCTGCAAAGGGTTTGCCCTGAGACTCCAAGAAGAAGCTGCGGGAAGGACAGCAGGGGTCCTGGGG TTTTAGCCTCTGGCCCAGGAGTTATGTGTCCATAACCAAAGGGAGCACAGTCTGCACCCAGCTCTCATCCCATCG GAGCTGCTGCGACTCCCGCAGGTTCTTCCGGAACTGGTTTAGCTTGCCCGCAGGATCAGGAAAGTTTGAGAAAAG CATCTGCAAAAAATAAAGAGCAGAGCTTACCTC

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FIGURE 4349

MAPEENAGTELLLQSFERRFLAARTLRSFPWQSLEAKLRDSSDSELLRDILHKTVKHPVCVKHPPSVKYARCFLS ELIKKHEAVHTEPLDELYEALAETLMAKESTQGHRSYLLPSGGSVTLSESTAIISYGTTGLVTWDAALYLAEWAI ENPAVFTNRTVLELGSGAGLTGLAICKMCRPRAYIFSDCHSRVLEQLRGNVLLNGLSLEADITAKLDSPRVTVAQ LDWDVATVHQLSAFQPDVVIAADVLYCPEAIMSLVGVLRRLAACREHQRAPEVYVAFTVRNPETCQLFTTELGRA GIRWEVEPRHEQKLFPYEEHLEMAMLNLTL

GGCACGAGGGAGAGTCGTCCAGGAGGCGGTGTTGATGCGGCAAAGGGCAACAGGAAGGGCATTAGGACTTGAAA TCGGAGACGCACGCAGGGGAGGGAGTCAGTGTCGGAACCTGGTAGGCCCTGGGAGAACTCCGGCTTTTCGTCTGC GTGAGCTGGAGAAGAGCCGAAGGTTTCTGCGCACAGCACGGACCTGCGTGCCTCAGCTTTAAGGAAATCACCGTG GCCGCCGCTGTGAACGCAGAAAGGGCCGCGAGCGTGGGAACCCAAGGCGGTGGGAAACGGTGGGGCTTT CTGAGTGTATTGGAAAGTAGAGCCCACAGATCTGCTGCAGACCAGAAAGGGGGCGCGAGAAAGAGCGGACAGAGGC AGACGCCGGGGCTGGCGATGGAGCAGCAGTCGGAGGACGCGGAAGGCCTGCGAGAGTCGCCCGCGGCCCAGC GCCGGCCTTCGGGTCCCACCTTGCGGGTGATGTTGTGCACGTAGGGGCACGTGTTGCAGGCGAAGCGGTGGCAGC GTTGTCCCTCCACGATCAGCCCGTTCCCGCAGCCGGGGCAGAACAGCATGGTCTCGAACTCCGCAGGCT CTTCCCGCCACCAACCAACCAATAGACAGGGCGATTCTGCGCTCCCGGCCCTGCTGCAGGCTGTCTCGCACTT-TTCCTGCGCGTGCGCCTTGGCCTCCTAGTGCGGGCTGGCAGTGCGGGCAGAGCCCGGCTGAGAGGGGCGGCCC TGGAGGAGACGGAGGCCGCGGTGGGCCCGAGGCGCAAGAGATGAGGACGAAGAAGAGAGCGCTGCCGCACT CCGAGGCC<u>ATG</u>GACGTGTTCCAGGAGGGTCTGGCTATGGTGGTGCAGGACCCGCTGCTCTGCGATCTGCCGATCC AGGTTACTCTGGAAGAAGTCAACTCCCAAATAGCCCTAGAATACGGCCAGGCAATGACGGTCCGAGTGTGCAAGA TGGATGGAGAAGTAATGCCCGTGGTTGTAGTGCAGAGTGCCACAGTCCTGGACCTGAAGAAGGCCATCCAGAGAT ACGTGCAGCTCAAGCAGGAGCGTGAAGGGGGCATTCAGCACATCAGCTGGTCCTACGTGTGGAGGACGTACCATC TGACCTCTGCAGGAGAAACTCACGGAAGACAGAAAGAAGCTCCGAGACTACGGCATCCGGAATCGAGACGAGG TTTCCTTCATCAAAAAGCTGAGGCAAAAGTGAGCCTCCAGACAGGACAACCCTCTTCATCACTGGTGGCTGAGCT TTTTCCCAGCAGGAATGGGTCCTCGAATCATCGTGCCTCTTTCACAGAAAGGACGTTGTGGTGGCCTCACCCCAG TTTCATGTACTTGGCCTGAGACTGACCTCTCCCTAGGTCCAAATGCCCTAGTCACATGGCAGACCCACGGCCTGG

 ${\tt MDVFQEGLAMVVQDPLLCDLPIQVTLEEVNSQIALEYGQAMTVRVCKMDGEVMPVVVVQSATVLDLKKAIQRYVQLKQEREGGIQHISWSYVWRTYHLTSAGEKLTEDRKKLRDYGIRNRDEVSFIKKLRQK}$

FIGURE 4353

TTCCCATCCGCACCAGCAAGAGGGGCCCCTGTGCCCCAAACGCGAACCGTACGGCTCCAGACAGCACCGCGGAAC TCGGTGGCTTCCAGAAGGCCCCGCGCCTGCGCATTCCGCTGCCCTGCGCCTGCGCCTGCGCCTGCGCCTTCTCCC GGCCGCCGCCTTAGCACCTCCTCCGGACGGTGTCGCCGAAGTCTCGCGAGCCCGGAGCGTGGCACGTGGGCCCCC TCCGCCTCCGGCTCCGTCCTCTCGGCCCCCTCCGCCCCCGGCCCCACGGCGGGATGCGGGACAACAC CAGCCCCATCAGCGTGATTCTGGTGAGCTCGGGGAGCAGGGGCAATAAGCTGCTGTTCAGGTACCCCTTCCAGAG AAGCCAGGAGCACCCGGCGTCCCAGACAAGTAAGCCGCGTAGCAGATACGCTGCCAGCAACACGGGCGACCATGC TGATGAGCAGGACGGCGATTCCAGGTTTTCAGATGTTATTCTGGCAACAATTTTGGCAACCAAGTCTGAAATGTG TGGCCAAAAATTTGAACTGAAGATTGATAATGTGCGATTTGTTGGGCACCCAACACTGCTACAGCATGCTCTGGG GCAGATCTCCAAAACAGATCCTTCCCCGAAGAGGGAAGCACCTACTATGATTCTTTTTAATGTGGTGTTTTGCACT GAGGGCCAACGCAGACCCGTCAGTGATAAACTGTCTGCATAACCTGTCCCGTCGTATCGCCACCGTGCTGCAGCA CGAGGAGCGCCGCTGCCAGTACCTCACCCGGGAGGCCAAGCTGATCCTGGCGCTCCAGGATGAGGTGTCCGCCAT GGCTGATGGAAATGAAGGTCCTCAGTCCCCATTCCATCACATCCTGCCCAAGTGCAAGCTGGCCAGGGACCTCAA CCTGCCCCACAGATCCACTATGCGGCCTCCAGTCTGATCCCCCCAGAGGCCATCGAACGGAGCCTGAAAGCCAT CCGCCCCTACCATGCCCTGCTGCTCAGTGATGAGAAGTCCTTGCTGGGTGAGCTTCCTATTGACTGCTCCCC TGCCCTAGTGCGGGTGATCAAGACCACATCTGCTGTGAAGAACCTGCAGCAGCTAGCCCAAGATGCGGACCTGGC CTTGCTGCAGGTTTTCCAGCTTGCAGCTCATCTGGTGTACTGGGGCAAGGCCATCATCATCTACCCGCTGTGTGA GAACAACGTCTACATGCTGTCTCCCAATGCCAGCGTATGTCTGTACTCCCCGCTGGCCGAGCAGTTCTCCCACCA GTTCCCATCTCATGACCTGCCGTCCGTTCTTGCCAAGTTCTCCTTGCCGGTCTCCTTGTCAGAATTTAGGAATCC CCTGGCCCCCGCTGTGCAGGAGACCCAGCTCATCCAGATGGTGGTGGATGCTGCAGCGCCGGCTTCTCATCCA GCTGCACACCTATGTCTGCCTGATGGCCTCACCCAGCGAGGAGGAGCCCCGTCCGCGAGAGGACGACGTCCCCTT CACTGCCCGGGTCGCGGTCGCAGCCTCAGCACGCCCAACGCCTCAGCTTTGGCTCCCCAACCAGCAGCGATGA CATGACCCTCACCAGCCCCAGCATGGACAACTCCAGCGCAGAGCTACTTCCCAGCGGGGACTCGCCACTGAACCA GAGGATGACGGAGAACCTGCTGGCCAGCTGTCGGAGCATGAACGCGCAGCCATCCTCAGTGTACCCGCAGCCCAG AACCCTGAGGACCTCCGCATGTTTGCCAGGCTCCTTCACTACTTCCGCGGCCGCCACCACCTGGAGGAGATTATG TACAACGAGAACACGCGGCGCTCCCAGCTGCTCATGCTGTTTGACAAGTTCCGCAGCGTGCTGGTGACCACC CACGAGGACCCTGTCATTGCCGTCTTCCAGGCTCTGCTCCCCTGAGCCCAGGCGGAGGGCGGAAGGCTGCTGGGG TGCGCAGGTGGGCGCTCGCGTCTCCCCACCCCAGGGCTCCCCCGTGCTGAGGCTGAGCCCTCTTGGCCCTGAGG CCTGGCATTGGGTGGATGCGGGCTGGCCCAGTGAAGCCTGCAGAGCCCCGCTGTCCTTGCCCCTGGTGG TTCCGCTGTGGGGCTGCCCTCTGTGTTCCTACGCTTCCCTCCAGTCCTTGCCGCACGCGTAGGCATCTCCAC GCTGGAGGGGGGCCTGCCAGGACTCCTGTCTCTGGGTGAGGCCGCATCCTTCAAGGCCCATGTGGGCTGTGCGTT TCTCAGACCCTCCTTCTGTCCCTACACCTGCTCCTTGGACCCCCCAGTCTGTGGCCACCCTGAAGAATGTGCAGA CCTCTGTCTGCCATGCGCTTCTTCCTCCCAGGCTACCCTGAGCCTTTCCTGGCCCAGTCCTCACCACAGTCCACA GAAGCCGCAAACAGGCTCATAGCCAAGCTGTGACCTGGTCCTGACCATCTGGGGCACGAGGGCCTGGGCTGGCCC TGCTAGGCTGGAGAAGCCCTGTCACCTGTGCACATCTTGCTGGTGGAGGCATGGCCCACTGTGCAGGACCCCACC CTCGGGGGCTTTCGGCTCCCACACTGATGATTCTCCCCAGCATCCACACCGGGCCTGGCGCTACGTACTCAGGCC CCCAGCTCTCGTGTCCTGGAGGAAGAGCTAGCTCCAGACATGGGTTGATCACCTAGAGGAĢCTCTGGCTAAGGCA GGACCCTGGCCAGAAGAGCCCTGGCCCTCCAGCAAGGCAGCACCTGCTCTGATGCACCTGTGCACCCCTGGCCCT CCCAGCCACCTGGGAGTCCGAAGCTTAGCCTGGAGGTGGCCAAGCCAGTCCCTACTCTTGGGCTGCGGCCACGTG AGGCTCCGCATCAGCAGCCAGGGGCGAGCACTAGTGGACAAAGCCAGCAAATGCGGCGTTCCTGTGAGCAGATAC CCTCAACCAGCCAGCTGTCAAAAGTATTTCAAGATAAAATCCAGGCCAAGC

 ${\tt MVLSPADKTNVKAAWGKVGAHAGEYGAEALERMFLSFPTTKTYFPHFDLSHGSAQVKGHGKKVADALTNAVAHVD}\\ {\tt DMPNALSALSDLHAHKLRVDPVNFKLLSHCLLVTLAAHLPAEFTPAVHASLDKFLASVSTVLTSKYR}$

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4725/6881 FIGURE 4357

 ${\tt MVLSPADKTNVKAAWGKVGAHAGEYGAEALERMFLSFPTTKTYFPHFDLSHGSAQVKGHGKKVADALTNAVAHVD} \\ {\tt DMPNALSALSDLHAHKLRVDPVNFKLLSHCLLVTLAAHLPAEFTPAVHASLDKFLASVSTVLTSKYR}$

TCCGCCGGCTACCATGTCCGCCCAGGCGCAGATGCGGGCCCTGCTGGACCAGCTCATGGGCACGGCTCGGGACGG AGACGAAACCAGACAGAGGGTCAAGTTTACAGATGACCGTGTCTGCAAGAGTCACCTTCTGGACTGCTGCCCCCA TGACATCCTGGCTGGGACGCGCATGGATTTAGGAGAATGTACCAAAATCCACGACTTGGCCCTCCGAGCAGATTA TGAGATTGCAAGTAAAGAAGAGACCTGTTTTTTGAATTAGATGCAATGGATCACTTGGAGTCCTTTATTGCTGA ATGTGATCGGAGAACTGAGCTCGCCAAGAAGCGGCTGGCAGAACACAGGAGGAAATCAGTGCGGAAGTTTCTGC AAAGGCAGAAAAAGTACATGAGTTAAATGAAGAAATAGGAAAACTCCTTGCTAAAGCCGAACAGCTAGGGGCTGA AGGTAATGTGGATGAATCCCAGAAGATTCTTATGGAAGTGGAAAAAGTTCGTGCGAAGAAAAAAGAAGCTGAGGA AGAATACAGAAATTCCATGCCTGCATCCAGTTTTCAGCAGCAAAAGCTGCGTGTCTGCGAGGTCTGTTCAGCCTA CCGAGAGAGCTTGATCAGTTGAGGAAAACTGTCGCTGAAAAGCAGGAGAAGAGAAATCAGGATCGCTTGAGGAG GAGAGAGGAGAGGGACGGAGGAGCGTCTGAGCAGGAGGTCGGGATCAAGAACCAGAGATCGCAGGAGGTCACG CTCCCGGGATCGGCGTCGGAGGCGGTCAAGATCTACCTCCCGAGAGCGACAGATTGTCCCGGTCCCGGTCCCG AGATAGACATCGGCGCCACCGCAGCCGTTCCCGGAGCCACAGCCGGGGACATCGTCGGGCTTCCCGGGACCGAAG $\tt TGCGAAATACAAG\underline{TAA}CTACTCTGACTCCTTCGGTAGCTGCAACCAGGAGTGAGCCCTTCTCTGTGTTCCCAGGG$ ACTCAGGTGTGGGAAGAGGCGAGAGGCTGTGGAGGAGCTCGCACGGCGCCCAGGTGATGGGCTGCACAGGCACTG TCCCCTGCCTGCGTCCTGGGGCCTGTGCACTGTTGCGTCCATGCTCAGAGTGGCTGAGACTTGTGTCCTGACCAG TGTGCATATAGTGTTGTATTCTCCTTTGCACTGTTTATGTTACAGTGAAGGCTCTCCTTATTAAAAATCTTCGCA

MSAQAQMRALLDQLMGTARDGDETRQRVKFTDDRVCKSHLLDCCPHDILAGTRMDLGECTKIHDLALRADYEIAS KERDLFFELDAMDHLESFIAECDRRTELAKKRLAETQEEISAEVSAKAEKVHELNEEIGKLLAKAEQLGAEGNVD ESQKILMEVEKVRAKKKEAEEEYRNSMPASSFQQQKLRVCEVCSAYLGLHDNDRRLADHFGGKLHLGFIQIREKL DQLRKTVAEKQEKRNQDRLRRREEREERLSRRSGSRTRDRRRSRSRDRRRRSRSTSRERRKLSRSRSDRHR RHRSRSRSHSRGHRRASRDRSAKYK

 ${\tt MRTLDLIDEAYGLDFYILKTPKEDLCSKFGMELKRGMLLRLARQDPQLHPEDPERRAAIYDKYKEFAIPEEEAEW} \\ {\tt VGLTLEEAIEKQRLLEEKDPVPLFKIYVAELIQQLQQQALSEPAVVQKTASGQ}$

4730/6881 FIGURE 4362A

GCACCGCGGCTGAGGAGCCGGAGGCCGTCCGGGCAGCGCGGCGGCGAGAGGGGCCCCCGCCGCTCTCCGGAG GCAGAAGTTGTGGATCGGCCGGCGGGGCGAGCGGGCCCGGGGCCGGGGCCGCGCTGCCCGGGCCGCGAGGACG AGGCGGCGCCGGGCTGTGGAGGCAGCCCAGACGCGGCACAGAGAGGGCCTGGGAGCTTGCTGCAGCTTC AGACAGGGAGCCAGGATGGGAACCACGGACTGACCTGCGTCCTCGGGGCCACTGCACTGGGTGATTCACG CGGCACAAGCCCGACCTCAACCACATCCTGCGGCTCAGCGTGGAGGAGCAGAAATGGCCCTGCGCCCGCTGCACC TTCCGCAACTTCCTGGGCAAGGAGGCCTGCGAGGTGTGCGGCTTCACCCCGGAGCCTGCGCCTGGGGCTGCCTTC CTGCCAGTCCTCAACGGGGTCCTCCCCAAGCCACCCGCCATCCTGGGGGAGCCCAAGGGCAGCTGCCAGGAGGAA GCAGGTCCAGTGAGGACTGCGGGGCTGGTGGCCACGCAGCCCGCCAGGGGCAGTGCGAGGACAAGGACGAGGAC CACAACACGCCGTGGCCAGCTCCTGCTCGTCTGCGGGGGCCCACGCAGGCTCTCGCTGCCACGGATCCCTCCT CCCGGGGAAGGTGCCGAGGCCAACCCCCAGCCAGCCAGGGCCCAGGTGCCGAACCAGAGCCGCCCAGGGTC CCGCCCTTCAGCCCCTTCTCGTCCACCCTGCAGAACAACCCCGTGCCGCGCAGCCGACGCGAGGTTCCCCCCAG CTGCAGCCACCGGTGCCTGAGGCTGCCCAGCCGTCACCCTCTGCCGGCTGCAGGGGAGCCCCCCAGGGCTCGGGC TGGGCTGGGGCCTCCCGCCTAGCAGAGTTGCTGTCTGGCAAGCGGCTGAGTGTGCTGGAGGAAGAGGCCACGGAG GGTGGCACCAGCCGCTAGAGGCCGGCAGCTCCACCTCGGGCAGTGACATCATTGACCTGGCCGGAGACACCGTG CGTTACACGCCCGCCAGCCCCTCCAGCCCCGACTTCACCACCTGGTCATGTGCCAAGTGCACGCTCAGAAACCCC ACAGTGGCCCCAGGTGCTCGGCCTGCGGCTGCTCCAAACTGCACGGCTTCCAGGAGCATGGCGAGCCCCCCACC CACTGCCCGACTGTGGGGCCGACAAGCCCAGCCCCTGCGGCAGAAGCTGCGGACGGGTGTCCTCGGCCCAGAAG GCCGCCGCGTCCTGCCCGAGCGCCCGGGCCAGTGGGCCTGCCCTGTCCTGTACCCTGCTCAACGCACTGCGGGCC GAGAGCATGCACGTGGAGCAGCGGCGGCAGACAGACGAGGCCAAGGCACTCTGGGAGAACATCGTGGCC GGTGACAGCGTGCAGCAGCGTGTGAGGCAGTGGCTGCGACCCCAGGAGATCAACTGCTCCGTCTTCAGGGACCAC AGGGCCACGTGGTCTGCTGCTCCACACACTGCGGCCCTCAGACATCCTGCAGGGGCTGCTGGGGAACTGCTGGTTC CTGAGCGCCCTGGCGGTGCTGGCGGAGCGGCCGGACCTGGTGGAGCGGGTGATGGTCACGCGCAGCCTGTGTGCA GAGGGCGCCTACCAGGTGCGGCTGTGCAAGGACGGCACGTGGACCACGGTGCTGGTGGACGACATGCTGCCCTGT GCCAAGCTGCACGGCTCCTACTTTGCGCTCCAGGCGGGCCGCCCATCGAAGGCCTGGCCACGCTCACCGGCGCC CCCTGTGAGAGCCTGGCGCTGCAGCTCCACTAACCCCGGGAGGAGCCCGTTGACACTGACCTCATCTGG GCCAAAATGCTGAGTTCTAAGGAGGCTGGGTTCCTCATGGGTGCCTCCTGTGGCGGGGGCAACATGAAGGTGGAC GATTCGGCCTACGAGAGCCTGGGCCTGCGCCCCGGCATGCCTACTCCATCCTGGATGTCCGAGATGTCCAGGGC ACCAGGCTTCTGCGGCTCCGAAACCCGTGGGGCCGTTTCTCCTGGAACGGCAGCTGGTCCGACGAGTGGCCACAC TTTGTCAGGTACTTCGACTCCGTGGACATCTGTAAGGTGCACTCGGACTGGCAGGAGGCGCGGGTGCAGGGCTGC TTTCCCAGCTCGGCCAGCGCCCCGTGGGGGTAACAGCGCTCACGGTGCTGGAGCGGGCCTCGCTGGAGTTCGCG CTCTTCCAGGAGGCAGCAGGCGCTCGGACGCCGTGGACACCTGCTGGACCTGTGCATCCTGGTGTTCCGG GCCACGTTCGGCAGCGGCCGCCTCAGCCTGGGCCGCCTCCTGGCCCACAGTAAGCGCGCGGTCAAGAAGTTC GTCAGCTGCGACGTCATGCTGGAGCCTGGCGAGTACGCTGTGGTGTGCTGCGCCTTCAACCACTGGGGGCCGCCC CTGCCGGCCACCCCTGCCCCCAGGCCTCCAGCCCCTCGGCAGGGGTCCCGAGAGCCTCCCCAGAGCCGCCGGGC CACGTGCTGGCTGTTACAGCTCGAGGCTGGTCATGGTGGAGCCCGTGGAAGCCCAGCCGACCACGCTGGCCGAC GCCATCATCCTGCTCACCGAGAGCCGCGGAGAGCGGCACGAGGGCCGTGAGGGCATGACCTGCTACTACCTGACA CACGGTTGGGCGGGGCTCATCGTGGTGGTGGAGAACCGACACCCCAAGGCCTACCTGCACGTGCAGTGTGACTGC ACCGACAGCTTCAACGTGGTGTCCACACGCGGCAGCCTGCGTACCCAGGATAGCGTGCCACCCCTGCACAGGCAG GCCCAGGCCTTCCTCAGTGACTGGACAGCCTCCAAGGGGACCCACAGCCCCCCACTCACGCCAGAGGTCGCCGGT

4731/6881 FIGURE 4362B

MATVGEWSCVRCTFLNPAGQRQCSICEAPRHKPDLNHILRLSVEEQKWPCARCTFRNFLGKEACEVCGFTPEPAP
GAAFLPVLNGVLPKPPAILGEPKGSCQEEAGPVRTAGLVATEPARGQCEDKDEEEKEEQEEEGAAEPRGGWACP
RCTLHNTPVASSCSVCGGPRRLSLPRIPPEALVVPEVVAPAGFHVVPAAPPPGLPGEGAEANPPATSQGPAAEPE
PPRVPPFSPFSSTLQNNPVPRSRREVPPQLQPPVPEAAQPSPSAGCRGAPQGSGWAGASRLAELLSGKRLSVLEE
EATEGGTSRVEAGSSTSGSDIIDLAGDTVRYTPASPSSPDFTTWSCAKCTLRNPTVAPRCSACGCSKLHGFQEHG
EPPTHCPDCGADKPSPCGRSCGRVSSAQKAARVLPERPGQWACPACTLLNALRAKHCAACHTPQLLVAQRRGAAP
LRRRESMHVEQRRQTDEGEAKALWENIVAFCRENNVSFVDDSFPPGPESVGFPAGDSVQQRVRQWLRPQEINCSV
FRDHRATWSVFHTLRPSDILQGLLGNCWFLSALAVLAERPDLVERVMVTRSLCAEGAYQVRLCKDGTWTTVLVDD
MLPCDEAGCLLFSQAQRKQLWVALIEKALAKLHGSYFALQAGRAIEGLATLTGAPCESLALQLSSTNPREEPVDT
DLIWAKMLSSKEAGFLMGASCGGGNMKVDDSAYESLGLRPRHAYSILDVRDVQGTRLLRLRNPWGRFSWNGSWSD
EWPHWPGHLRGELMPHGSSEGVFWMEYGDFVRYFDSVDICKVHSDWQEARVQGCFPSSASAPVGVTALTVLERAS
LEFALFQEGSRRSDAVDSHLLDLCILVFRATFGSGGHLSLGRLLAHSKRAVKKFVSCDVMLEPGEYAVVCCAFNH
WGPPLPGTPAPQASSPSAGVPRASPEPPGHVLAVYSSRLVMVEPVEAQPTTLADAIILLTESRGERHEGREGMTC
YYLTHGWAGLIVVVENRHPKAYLHVQCDCTDSFNVVSTRGSLRTQDSVPPLHRQVLVILSQLEGNAGFSITHRLA
HRKAAQAFLSDWTASKGTHSPPLTPEVAGLHGPRPL

 $\tt AGGAGGGCGCGCACGGCTGGCGGCGGGAAGCCCCGAGAGGCCCGAGCGCGCAGGAGCTCAAGGAGC$ CGCTGGTGGCCGTGTATTACACCAACCGGCCTTGTGCTACCTGAAGATGCAGCAGCACGAGCACGAGCCCTGGCCG ACTGCCGGCGCCCTGGAGCTGGACGGCAGTCTGTGAAGGCCGCACTTCTTCCTGGGGCAGTGCCAGCTGGAGA TGGAGAGCTATGATGAGGCCATCGCCAATCTGCAGCGAGCTTACAGCCTGGCCAAGGAGCAGCGGCTGAACTTCG GGGACGACATCCCCAGCGCTCTTCGAATCGCGAAGAAGAAGCGCTGGAACAGCATTGAGGAGCGGCGCATCCACC AGGAGAGCGAGCTGCACTCCTACCTCTCCAGGCTCATTGCCGCGGAGCGTGAGAGGGGAGCTGGAAGAGTGCCAGC GAAACCACGAGGGTGATGAGGACGACAGCCACGTCCGGGCCCAGCAGCCTGCATTGAGGCCAAGCACGACAAGT ${\tt ACATGGCGGACATGGACGAGCTTTTTTCTCAGGTGGATGAGAAGAGGGAAGAAGCGAGACATCCCCGACTACCTGT}$ GTGGCAAGATCAGCTTTGAGCTGATGCGGGAGCCGTGCATCACGCCCAGTGGCATCACCTACGACCGCAAGGACA ${\tt TCGAGGAGCACCTGCAGCGTGGGCCATTTTGACCCCGTGACCCGGAGCCCCCTGACCCAGGAACAGCTCATCC}$ CCAACTTGGCTATGAAGGAGGTTATTGACGCATTCATCTCTGAGAATGGCTGGGTGGAGGACTAC**TGA**GGTTCCC TGCCCTACCTGGCCGTCCTGGTCCAGGGGAGCCCTGGGCAGAAGCCCCCGGCCCCTATACATAGTTTATGTTCCTG GCCACCCCGACCGCTTCCCCCAAGTTCTGCTGTTGGACTCTGGACTGTTTCCCCTCTCAGCATCGCTTTTGCTGG GCCGTGATCGTCCCCCTTTGTGGGCTGGAAAAGCAGGTGAGGGTGGGCTGAGGCCATTGCCGCCACTATC TGTGTAATAAAATCCGTGAGCACGA

MKGKEEKEGGARLGAGGGSPEKSPSAQELKEQGNRLFVGRKYPEAAACYGRAITRNPLVAVYYTNRALCYLKMQQ HEQALADCRRALELDGQSVKAHFFLGQCQLEMESYDEAIANLQRAYSLAKEQRLNFGDDIPSALRIAKKKRWNSI EERRIHQESELHSYLSRLIAAERERELEECQRNHEGDEDDSHVRAQQACIEAKHDKYMADMDELFSQVDEKRKKR DIPDYLCGKISFELMREPCITPSGITYDRKDIEEHLQRVGHFDPVTRSPLTQEQLIPNLAMKEVIDAFISENGWV EDY

GCCTGGACTGCACGGCCCGGCAGCAGGTTGGTCTTGGCGTGGGCGTGGGCGCGGGAGGGGCTCGGAGCCAGGGTC GCGCTGCGGGCAGACCTGGCTGCCGGGCCTGGTAGTGCTGCAGCCCCTCCCCGCCCCCACCGTCGGGCAGAGGCA TTCACGTGCATCCCCTGGAGGGGAGGGTCTGTGGGGAGGATCTGTGGGGCAGGTTTGGAACGGGCTCTTTCTCCA GGCTTAGGTCAGGCAGGGCCCTTCAGGTCAGCCCGGAGCAGGCTGACTCCTTGACTCCCAGCTGACGCCCTGGG GACTGATCTCGGGGACTGAGGATGCAGGTGCACAGTAGGGCTGCGGACCCGGCTCGGTGGCTTCGCACCGGAGCC GTGGCTCGGCAGGCCGGCCATGCAGCCAGCAGCGTGGAGAACCTGTCCATCGTGTACCGGAGCCGCGACTTCCT GCGGTACCGCTTTCCCGAGCTGGCCGACCCTGACACCTGCTACGGGTTCAGGTTCTGCCACCAGCTGGATTTCTC CACCAGCGGGCGCTGTGCGTGGCCCTAAACAAGGCAGCCGCCGGCAGCGCGTACAGGTGCTTCAAGGAGCGGCG CGTGACCAAGGCTTACCTGGCATTGCTGCGGGGGCACATCCAGGAGAGCCGGGTAACCATCAGCCATGCCATTGG CAGGAACAGCACGGAGGGCCGGCCCACACCATGTGCATCGAGGGCTCGCAGGGTTGTGAGAACCCAAAGCCAAG CCTCACAGATCTCGTGGTTCTGGAACACGGGCTGTACGCAGGCGATCCTGTCTCCAAAGTGCTGCTGAAGCCGCT AGAAGTCTCGGGCCGGGAGGACCGGCCGTTCAGAATGATGCTGCACGCTTTCTACCTGCGCATCCCCACGGACAC GCAGTCGCTGGACCAGCCCTGACCCCGAGGATAGGGGCCCCAGGCC ACAGCGGGGCCCTGCCTGCAGTGGCTGTCGGAGTGGACCGTGGAACCGGACAGCTGAGAGCCGTGGGGCTGGGG GAGGTGCCAGGCAGCATCAGGCCCACTGGGTTGCCCCGGCCAGGCCTGCGAGGAAGGGCTGAGGTGGGGCCGGCA GGGGCCCCAGGCAGCCGTGATCACAGGTGACGACCGCACCGCGGCCGTGGGACTGATGCGGGATCCCGAGGGCC TTCCTGCCCACATGCCCCGGGAGAAACCGAGGCCCCTCCTCCTGGAACAGCTTCCGGCTCTCAAGCGTCAC CCCAGGGGCGTCAGTTTTACGGACTCAAGGTCACCTCAGGAAGAGGCCAGGGTCTTTGGGATAGGCTTTGCC TCCAGGATGGGCTGCTCCTGGGCCTGGTGAGCTACTGCCCCCAACCTACCCTCTAGAGGGGCTGGGAAGGGCCGT TCTGGGCTCACCTGGCCTGGGAGACCCATCTGGTCCCTGCGTCCTCTGCCCCTCACTGCTCTGTGCAGATCCTGT CGCCCTCAGCTGCCTCCCCGAGACCTAATGGTCCCTGCTGGGCTCGAGTCTGCAGGCCCGGCTGCGTGTGCCT TGGCCTCACTGTACCAGTGGTTCCCTCTCTGCCCGGATTCTGAGCTCAGTGTGGTGTTTTGGTGCACAGGGGTTGG TCAGGGGCCATGGCCAAGGCCCTGCCACGCCCATCCCTCAGATCCACTGTGAGCACCAACCTGCTGCAGTC TCTTGGGCCCCTGCTGGCAGCTCTGCCACGCCTGCCTGGCTCCCACACAGCCATGCATTGTCACTCTGC CTCCGGGACCCCAGCTTGGGAGCTGTGGGTCTGCCAGGTCCCACCTCCTCTTGTCCCCCATGCCACAACCTGGGCT CCTGGCTACAGCAGGGCTCCAGGGACTCCAAATAAATGTTCAGTGACTGGCTCCAAGGATGAC

MEPGSVENLSIVYRSRDFLVVNKHWDVRIDSKAWRETLTLQKQLRYRFPELADPDTCYGFRFCHQLDFSTSGALC VALNKAAAGSAYRCFKERRVTKAYLALLRGHIQESRVTISHAIGRNSTEGRAHTMCIEGSQGCENPKPSLTDLVV LEHGLYAGDPVSKVLLKPLTGRTHQLRVHCSALGHPVVGDLTYGEVSGREDRPFRMMLHAFYLRIPTDTECVEVC TPDPFLPSLDACWSPHTLLQSLDQLVQALRATPDPDPEDRGPRPGSPSALLPGPGRPPPPPTKPPETEAQRGPCL QWLSEWTLEPDS

GCGGGAGGTTCGGAGCGGGAGCTCGCGGACGGT<u>ATC</u>GAGGACTACGAGCAGGAGCTGTGCGGCGTCGAG GATGATTTCCACAACCAGTTCGCGGCCGAGCTGGAGGTGCTGGCAGAGCTGGAAGGGGGCGTCGACTCCGTCGCCC TCCGGGGTCCCCTGTTCACCGCGGGCCGACCCCCGCGGACGTTCGAGGAGGCCCTTGCCAGAGGGGACGCGGCC CAGCCGGCCGGGTCCCTGCCCCACGGTAGGTTGGCGGCATTGCCCCAGGGCCTCCGGAGTGGGCGAGGCTGAG GAGGCCTCTGGTTCCCTGCATGTGTCTCCCCCAGCCCCCAGGATCAAACGGCCTAGGCTGCAGGTGGTCAAGAGG CTGAACTTCAGATCGGAGGAGATGGAGGAGCCGCCCCCTCCCGACTCCTCGCCGACGGACATCACCCCGCCGCCG TCACCAGCTGCCCGCAATCCCGTCCTGAGGCGGCCCCCCATCTTGGAGGACTACGTCCACGTGACATCCACGGAG GGCGTCCGGGCTTATCTGGTGCTGCGTGCTGACCCCATGGCCCCGGGGGTGCAGGGCTCTCTCCTCCACGTCCCA TGGCGAGGCGGTGGCCAGCTGGACCTGCTGGGTGTCCTTAGCCTCCCTGAAGAAGCAGGTCGACGGCGAGCGG GCCCAGCCCTTGGGGGCCCCTGAGGAGGAGCCGACTGACGGTCAAGACGCCTCCAGTCACTGCCTCTGGGTGGAT TTGTGGGACCTGGTGTTTTGGCCACGAGAGGCCTTCCCGGAAGCCCAGGCCCAGTGTTGAGCCGGCCCGGGTC AGCAAGGAGGCCACAGCCCAGGCAAGTGGAAGAGCCACGAACAGGTGCTGGAGGAGATGCTGGAGGCTGGGCTG GACCCGAGCCAGCGACCGAAGCAGAAGGTGGCACTGCTCTGTGGGCCCCCGGGGCTGGGGAAGACCACCCTGGCA CACGTGATTGCGCGTCACGCGGGGTACTCTGTGGTGGAGATGAACGCCAGTGACGACCGTAGCCCGGAGGTCTTC CGCACACGCATCGAGGCGGCCACCCAGATGGAGTCGGTGCTGGGTGCTGGCGGGAAGCCCAACTGCCTGGTCATC GATGAGATCGACGGGGCCCCCGTGGCCGCCATCAACGTCCTCCTGAGCATCCTGAACCGCAAGGGGCCCACAGGAG GTGGGGCCACAGGGCCCGGCTGTGCCTTCGGGAGGCGGCCGACGGCGCCGGGCAGAGGGGGGGCTCCTCATGAGG CCCATTATCTGCATTTGCAATGACCAGTTCGCACCGTCCCTGCGGCAGCTGAAGCAGCAGGCCTTCCTGCTCCAC TTCCCGCCGACTCTGCCCTCGAGGCTGGTGCAGCGGCTCCAGGAGGTCTCCCTGCGGCAGGGCATGAGGGCCGAC CCAGGGGTGCTGGCCGCCCTCTGTGAGAAAACTGACAATGACATCCGGGCCTGCATCAACACCCTGCAGTTCCTG TACAGCCGGGGCCAGCGGAGCTGAGCGTGCGGACGTGCAGGCCACACGCGTGGGCCTCAAGGACCAGCGCAGA GGGCTCTTCTCGGTGTGGCAGGAGGTCTTCCAGCTGCCTCGAGCCCAGAGGCGCCGTGTGGGCCAGGACCCCGCC CTGCCTGCTGACACACTCCTGCTGGGTGACGGGGACGCGGGCTCCCTCACCTCCGCCTCACAGCGATTCTACCGT GTCCTGCATGCCGCTGCCTCTGCGGGCGAGCACGAGAAGGTGGTCCAGGGCTTGTTTGACAACTTCCTGCGTCTG CGGCTGCGAGACTCCAGCCTGGGTGCTGTGTGTGTGGCCCTCGACTGGCCTGGCCTTCGATGACCTGCTGGCGGG GCTTCCAGCCACACCCCAGGATCACCTTCCCCAGCAGCCAGGAGGCCCAGAACCGGATGAGCCAGATGAGG GATGCCCTCTGCCTGCTCCTGGACATTCTTGCACCCAAGCTCCGCCCCGTGAGCACACAGCTGTACAGCACCCGT GAAAAGCAACAGCTGGCCAGCCTGGTGGGCACGATGCTCGCTTACAGCCTGACCTACCGCCAGGAGCGCACGCCC GCCCGGGTAGAGAACAGCCCCCAGGTGGATGGGAGCCCCCCAGGGCTCGAGGGTCTGCTGGGGGGCATTGGGGAG AAAGGGGTGCACCGACCTGCCCCACGCAACCATGAGCAGCGGCTGGAGCACATCATGAGGCGAGCGGCCCGGGAG GAACAGCCTGAGAAGGACTTCTTTGGACGTGTGGTCGTCAGGAGCACAGCAGTCCCGAGTGCAGGGGACACGGCC CCGGAGCAGGACTCAGTGGAGCGGCGCATGGGCACAGCGGTGGGCAGGAGCGAGGTCTGGTTCCGCTTCAACGAG ${\tt GGTGTCTCCAACGCCGTGCGGCGCAGCCTGTACATCAGGGACTTGCTC} {\tt TAG}{\tt TTCTCTGAGCCGCGGACATGCCCT}$ CGCATTGCTTCCCGCAGAGTGCAGAGACAGGAAGCTGGAGATGTCTTTATAAAGTCACACCTTTACAGACTGT

WO 2004/030615 PCT/US2003/028547

4738/6881 FIGURE 4369

MEDYEQELCGVEDDFHNQFAAELEVLAELEGASTPSPSGVPLFTAGRPPRTFEEALARGDAASSPAPAASVGSSQ GGARKRQVDADLQPAGSLPHGRLAALPQGLRSGREAEEASGSLHVSPPAPRIKRPRLQVVKRLNFRSEEMEEPPP PDSSPTDITPPPSPEDLAELWGHGVSEAAADVGLTRASPAARNPVLRRPPILEDYVHVTSTEGVRAYLVLRADPM APGVQGSLLHVPWRGGGQLDLLGVSLASLKKQVDGERRERLLQEAQKLSDTLHSLRSGEEEAAQPLGAPEEEPTD GQDASSHCLWVDEFAPRHYTELLSDDFTNRCLLKWLKLWDLVVFGHERPSRKPRPSVEPARVSKEATAPGKWKSH EQVLEEMLEAGLDPSQRPKQKVALLCGPPGLGKTTLAHVIARHAGYSVVEMNASDDRSPEVFRTRIEAATQMESV LGAGGKPNCLVIDEIDGAPVAAINVLLSILNRKGPQEVGPQGPAVPSGGGRRRRAEGGLLMRPIICICNDQFAPS LRQLKQQAFLLHFPPTLPSRLVQRLQEVSLRQGMRADPGVLAALCEKTDNDIRACINTLQFLYSRGQRELSVRDV QATRVGLKDQRRGLFSVWQEVFQLPRAQRRRVGQDPALPADTLLLGDGDAGSLTSASQRFYRVLHAAASAGEHEK VVQGLFDNFLRLRDSSLGAVCVALDWLAFDDLLAGAAHHSQSFQLLRYPPFLPVAFHVLFASSHTPRITFPSS QQEAQNRMSQMRNLIQTLVSGIAPATRSRATPQALLLDALCLLLDILAPKLRPVSTQLYSTREKQQLASLVGTML AYSLTYRQERTPDGQYIYRLEPNVEELCRFPELPARKPLTYQTKQLIAREIEVEKMRRAEASARVENSPQVDGSP PGLEGLLGGIGEKGVHRPAPRNHEQRLEHIMRRAAREEQPEKDFFGRVVVRSTAVPSAGDTAPEQDSVERRMGTA VGRSEVWFRFNEGVSNAVRRSLYIRDLL

<u>ATCGGTAGCCGGGGGGGGGGGGGGGGGCCGCCGCTTAAAGAAACTTGTTGCGGGTCCCGCAGCGGGACC</u> CGAGCCTCGGCGGCGGCGGCGGCGGCGGCGAGGGTCGGGGCCACCGCGGCGACCTCGGGTCCCGGAG CGACCGCAGGGCAGCCCCGGCCCCGGTGCGCGTCTCCTGTGCGCGCCCCTCCGCGCGCGCCCCGATG CTGGACATGAGCGAGGCCCGCTCCCAGCCGCCCTGCAGCCCGCCACCCCAGCTCCATGTCGCACGTGGAG GACTCGGACTCGGACGCCGCCGTCTCCCGCCGGCTCCGAGGGCCTGGGCCGCGGGGGGTCGCGGTGGGGGGC GCCCGGGGCGACCCGGCGGAGGCGGCGACGACGCCTTCCCGGCCTGCATCCGCGACGCCGTGTCGCAGGTGCTC CTGCACAACGCCGAGCTCAGCAAGACGCTGGGCAAGCTGTGGCGCTTGCTGAGCGAGAGCGAGAAGCGGCCCTTC GTGGAGGAGGCAGAGCGCCTTCGCGTGCAGCACAAGAAGGACCACCCCGACTACAAGTACCAGCCACGCCAGG AAGAGCGCCAAAGCCGGCCACAGCGACTCCGACTCGGGCGCGGAGCTCGGACCCCACCCTGGCGGCGGTGCCGTG TACAAGGCTGAAGCAGGGCTTGGAGATGGGCACCACCATGGCGACCACAGGGCAGACCCACGGGCCGCCCACC GTGGACAGCGGGCGCCAGAACATCGACTTCAGCAACGTGGACATCTCGGAGCTCAGCAGCGAGGTCATGGGCACC ATGGACGCCTTCGACGTCCACGAGTTCGACCAGTACCTGCCCCTGGGCGGCCCCGCCCCACCCGAGCCGGGCCAG GCCTATGGGGGCGCCTACTTCCACGCCGGGGCGTCCCCCGTGTGGGCCCACAAGAGTGCCCCGTCGGCCTCCGCG TCGCCCACGGGGTCCCCCACGGCCGCACATCAAGACGGAGCAGCCGAGCCCGGCCACTACGGCGACCAG CTCTACCAGTACCCCTGCTTCCACTCGCCGCGCCGCCCTACGCCTCACCCCTGCTCAACGGCCTGGCCCTGCCG CCCGCCCACAGCCCACCAGTCACTGGGACCAGCCGGTGTACACCACCCTGACCAGGCCCTGA

MGSRARGGAAGPPLKETCCGSRSGTRASAAAAAAAGARVGATARRPRVPERPQGSPGRRPRCASPVRAPPRAAPM LDMSEARSQPPCSPSGTASSMSHVEDSDSDAPPSPAGSEGLGRAGVAVGGARGDPAEAADERFPACIRDAVSQVL KGYDWSLVPMPVRGGGGGALKAKPHVKRPMNAFMVWAQAARRKLADQYPHLHNAELSKTLGKLWRLLSESEKRPF VEEAERLRVQHKKDHPDYKYQPRRKKSAKAGHSDSDSGAELGPHPGGGAVYKAEAGLGDGHHHGDHTGQTHGPPT PPTTPKTELQQAGAKPELKLEGRRPVDSGRQNIDFSNVDISELSSEVMGTMDAFDVHEFDQYLPLGGPAPPEPGQ AYGGAYFHAGASPVWAHKSAPSASASPTETGPPRPHIKTEQPSPGHYGDQPRGSPDYGSCSGQSSATPAAPAGPF AGSQGDYGDLQASSYYGAYPGYAPGLYQYPCFHSPRRPYASPLLNGLALPPAHSPTSHWDQPVYTTLTRP

4741/6881 FIGURE 4372A

GGCACGAGGCCGCGCTTCCCGGCCGGTGTCGCTCCGCGGCGGGCCATCGCCAACGTCTCTAAGAAGGTGTCCTG GCTGCTGAACGGGGCTGGGGCTGCGCGCCAGTCACCACGTTCTGCGCTTTTCCGAGTCGGACATATGAG CAGCGTGGAGCTGGATGAACTTTTTGGACCCGGATATGGACCCTCCACATCCCTTCCCCAAGGAGATCCCACA CAACGAGAAGCTCCTGTCCCTCAAGTATGAGAGCTTGGACTATGACAACAGTGAGAACCAGCTGTTCCTGGAGGA GGAGCGGCGGATCAATCACACGGCCTTCCGGACGGTGGAGATCAAGCGCTGGGTCATCTGCGCCCTCATTGGGAT GGGCAATATCGACAAGTTCACAGAGAAGGGCGGACTGTCCTTCTCCCTGTTGCTGTGGGCCACGCTGAACGCCGC CTTCGTGCTCGTGGGCTCTGTGATTGTGGCTTTCATAGAGCCGGTGGCTGCTGGCAGCGGAATCCCCCAGATCAA GTGCTTCCTCAACGGGGTGAAGATCCCCCACGTGGTGCGGCTCAAGACGTTGGTGATCAAAGTGTCCGGTGTGAT ${\tt CCTGTCCGTGGTCGGGGGCCTGGCCGTGGGAAAGGAAGGCCGATGATCCACTCAGGTTCAGTGATTGCCGCCGG}$ GATCTCTCAGGGAAGGTCAACGTCACTGAAACGAGATTTCAAGATCTTCGAGTACTTCCGCAGAGACACAGAGAA CAGCTTGGAGGAGGGTGCGTCCTTCTGGAACCAGTTCCTGACCTGGAGGATCTTCTTTGCTTCCATGATCTCCAC GTTCACCCTGAATTTTGTTCTGAGCATTTACCACGGGAACATGTGGGACCTGTCCAGCCCAGGCCTCATCAACTT CGGAAGGTTTGACTCGGAGAAAATGGCCTACACGATCCACGAGATCCCGGTCTTCATCGCCATGGGCGTGGTGGG CGGTGTGCTTGGAGCAGTGTTCAATGCCTTGAACTACTGGCTGACCATGTTTCGAATCAGGTACATCCACCGGCC CTGCCTGCAGGTGATTGAGGCCGTGCTGGTGGCCGCCGTCACGGCCACAGTTGCCTTCGTGCTGATCTACTCGTC GCGGGATTGCCAGCCCTGCAGGGGGGGCTCCATGTCCTACCCGCTGCAGCTCTTTTGTGCAGATGGCGAGTACAA CTCCATGGCTGCGGCCTTCTTCAACACCCCGGAGAAGAGCGTGGTGAGCCTCTTCCACGACCCGCCAGGCTCCTA CAACCCCTGACCTTGGCCTGTTCACGCTGGTCTACTTCTTCCTGGCCTGCTGGACCTACGGGCTCACGGTGTC TGCCGGGGTCTTCATCCCGTCCTGCTCATCGGGGCTGCCTGGGGCCGGCTCTTTGGGATCTCCCTGTCCTACCT CACGGGGGGGGGGATCTGGGCGGACCCCGGCAAATACGCCCTGATGGGAGCTGCTGCCCAGCTGGGCGGGATTGT GCGGATGACACTGAGCCTGACCGTCATCATGATGGAGGCCACCAGCAACGTGACCTACGGCTTCCCCATCATGCT GGTGCTCATGACCGCCAAGATCGTGGGCGACGTCTTCATTGAGGGCCTGTACGACATGCACATTCAGCTGCAGAG GACCTGCCTGAGGCGGCGTGAGAAGGTCGGCGTCATTGTGGACGTGCTGAGCGACACGGCGTCCAATCACAACGG CTTCCCGTGGTGGAGCATGCCGATGACACCCAGCCTGCCCGGCTCCAGGGCCTGATCCTGCGCTCCCAGCTCAT CGTTCTCCTAAAGCACAAGGTGTTTGTGGAGCGGTCCAACCTGGGCCTGGTACAGCGGCGCCTGAGGCTGAAGGA GGACCTCTCCGAGTTCATGAACCCCTCCCCTACACGGTGCCCCAGGAGGCGTCGCTCCCACGGGTGTTCAAGCT GTTCCGGGCCCTGGGCACCTGGTGGTGGTGGACAACCGCAATCAGGTTGTCGGGTTGGTGACCAGGAA GGACCTCGCCAGGTACCGCCTGGGAAAGAGAGGCTTGGAGGAGCTCTCGCTGGCCCAGACGTGAGGCCCAGCCCT GCCCATAATGGGCACTGGCGCTGGCACCCCGGCCCTTCTGCATTTCCTCCCGGAGTCACTGGTTTCTCGGCCCAA CTCGCGGGACTGACCCTGTTGTGGGCAGTGGTCTCCCCCCTTGGCGCCTCCTTGCGCAGGCCCAGCCTCCACTCT GAGCCAGCGGCAGGCCCGCACCTGCGTGCCCGTGTGCGTGAGACAGAGCCCTTGCCCCTGCTGCTGCCC CCGAGGGCTGCCTGCCCTGGAAGGGCCCCTCTGCCTCCACACCAGTGGAGTCTTCGAGACTTGGGAGCTGCTTG GCCTCATTTTCAGCCATGAGCAGACGGCCTGTGGTCCCTGGGCCTGAGGCACGGACTCGTAGCACCAGGGTTTGG AGGCTGCGACCGCCCGGAGAGCAGCTTCACACTGGCGCCACAGAGGAGCCCCACGTGCACTCCCCGGCCTGCAT CCGGCTTGGGTACACGGGCCCAGAGGACTGGGGTGACTCACGGGCCCTGTGCTGTGATGTTGAGAGCTGAGAAAA ACCTCCAAGGCCCTGAGCCCCATGCCCAGCCCTGCCTTGGTCCCCCAACCCCCAGAGCTTGGAGTCTGGGCCCCA GTGCAGCGGGGCCAGACTCCTGCCGGCCTCAGAGGACACCTGGCCCAGCACAGGCAGCTAGAAGGGCCGGTGGG TGGGGCCGCCACAGGCCCTCACGGGGCGGCAGAGGCAACTTCAGTGTCCCTGTTAGAGCAACACGGGTCCCTCC

4742/6881 FIGURE 4372B

MANVSKKVSWSGRDRDDEEAAPLLRRTARPGGGTPLLNGAGPGAARQSPRSALFRVGHMSSVELDDELLDPDMDP
PHPFPKEIPHNEKLLSLKYESLDYDNSENQLFLEEERRINHTAFRTVEIKRWVICALIGILTGLVACFIDIVVEN
LAGLKYRVIKGNIDKFTEKGGLSFSLLLWATLNAAFVLVGSVIVAFIEPVAAGSGIPQIKCFLNGVKIPHVVRLK
TLVIKVSGVILSVVGGLAVGKEGPMIHSGSVIAAGISQGRSTSLKRDFKIFEYFRRDTEKRDFVSAGAAAGVSAA
FGAPVGGVLFSLEEGASFWNQFLTWRIFFASMISTFTLNFVLSIYHGNMWDLSSPGLINFGRFDSEKMAYTIHEI
PVFIAMGVVGGVLGAVFNALNYWLTMFRIRYIHRPCLQVIEAVLVAAVTATVAFVLIYSSRDCQPLQGGSMSYPL
QLFCADGEYNSMAAAFFNTPEKSVVSLFHDPPGSYNPLTLGLFTLVYFFLACWTYGLTVSAGVFIPSLLIGAAWG
RLFGISLSYLTGAAIWADPGKYALMGAAAQLGGIVRMTLSLTVIMMEATSNVTYGFPIMLVLMTAKIVGDVFIEG
LYDMHIQLQSVPFLHWEAPVTSHSLTAREVMSTPVTCLRRREKVGVIVDVLSDTASNHNGFPVVEHADDTQPARL
QGLILRSQLIVLLKHKVFVERSNLGLVQRRLRLKDFRDAYPRFPPIQSIHVSQDERECTMDLSEFMNPSPYTVPQ
EASLPRVFKLFRALGLRHLVVVDNRNQVVGLVTRKDLARYRLGKRGLEELSLAQT

GAGCCAGCACCTCAGAGGTTCGACTCGCCGTCCGGGAAGCCATTCATGCCCTCTCGTCTTCGGAGGATGGCGGC CACATCTTCTGCACCCTGGAGTCCCTGAAGCGGTATCTCGGTGAGATGGAGCCTCCAGCGCTCCCGAGGGAGAAG CTGCTGCCCCATGGCCGCCTGGAGGAGCTGTGGGCCAGCTTCTTCCTGGAGGGCCCGGCGGACCAAGCCTTCCTG GTGTTGATGGAGACCATCGAGGGTGCTGCGGGCCCCAGCTTCCGGCTGATGAAGATGGCGCGGCTGCTGGCCAGA TTCCTGCGCGAGGGCCGGCTGGCAGTGCTGATGGAGGCGCAGTGTCGGCAGCAGACGCGGCCCGGCTTCATCCTG CTCCGGGAGACGCTGCTGGGCAAGGTGGTGGCCCTGCCCGATCACCTGGGCAACCGCCTGCAGCAGGAGAACTTG GCCGAGTTCTTCCCCCAGAACTACTTCCGCCTGCTCGGCGAGGAGGTCGTCCGGGTGCTGCAGGCGGTTGTGGAC TCTCTCCAAGGTGGCCTGGATTCCTCCGTGTCCTTCGTGTCTCAGGTCCTTGGGAAAGCCTGTGTCCACGGGAGG CAGCAGGAGATCCTGGGCGTGCTGGTACCCCGGCTGGCACCCAGGGCAGCTACCTGCACCAGCGCGTC TGCTGGCGCCTGGTGGAGCAAGTGCCGGACCGGCCATGGAGGCTGTGCTGACCGGGCTGGTGGAGGCCGCACTG GGGCCTGAGGTCCTTTCGAGACTGCTGGGGAACCTGGTGGTGAAGAACAAGAAGGCCCAGTTTGTGATGACCCAG AAGCTTCTGTTCTTACAGTCCCGGCTCACGACGCCCATGCTGCAGAGCCTGCTGGGCCATCTGGCCATGGACAGC CAGCGCCCCCCTCCTGCTGCAGGTGCTGAAGGAGCTGTTGGAGACGTGGGGCAGCAGCAGTGCCATCCGCCAC ACTCCCTGCCGCAGCAGCGCCACGTCAGCAAGGCTGTCCTCATCTGCCTGGCGCAACTCGGGGAGCCGGAACTG GTGCGACGCCTGGGCATGATCGTGGCAGAGGTCGTTAGTGCCCGGATCCACCCCGAGGGGCCTCCCCTGAAATTC CAGTACGAAGAGGATGAACTGAGCCTCGAGCTGCCGTTGGCCTCCCCCAGCCTGCGGGTGACGGCGCCTCG GAGGCGGCACGTCCCTCGTTCCAGCCACGCAGAGCCCCCTGCAGAGACCCCCGCAGAGATCGTGGATGGCGGC GTCCCCCAAGCACAGCTGCCGGGCTCTGACTCGGACAGCGATGATGATGAGTTTGTCCCCTACGACATGTCG GGGGACAGAGAGCTGAAGAGCAGCAAGGCTCCTGCCTACGTCCGGGACTGCGTGGAAGCCCTGACCACGTCTGAG GACATAGAGCGCTGGGAGGCAGCCCTGCGGGCCCTTGAGGGCCTGGTCTACAGGAGCCCCACAGCCACTCGGGAG GTGAGCGTGGAGCTGGCCAAGGTGCTTCTGCATCTGGAGGAGAAGACCTGTGTGGGGGATTTGCAGGGCTGCGC CAGAGAGCCCTGGTGGCCGTCACGGTCACAGACCCGGCCCCGGTGGCCGACTATCTGACCTCACAGTTCTATGCC CTCAACTACAGCCTCCGGCAGCGCATGGACATCCTGGATGTGCTGACTCTGGCTGCCCAGGAGCTGTCTAGGCCT CAGCCTGGCAGTGCCGTCTGACTGGCGGTGGTGGTGGAGGAGCGGATCAGAAGCCAAGACCCAGCGGCTC CCCCTCCTTCAGCGCTTTGACAGGCCTCTGGGTGACCTTCGACCTCTTGGGAAGACCAGCTGGTTCTCGGAAGG CTGGCGCACACCTTAGGGGCCCTGATGTGCCTGGCTGTTAACACCACGGTGGCTGTGGCCATGGGCAAGGCCCTG CTGGAATTCGTGTGGGCCCTTCGCTTCCACATCGATGCCTACGTGCGCCAGGGGCTGTTGTCGGCCGTCTCCTCC GTCCTGCTCAGCCTGCTGCGCGCCCTGCTGGAGGACCTGATGGACGAGCTGCTGGAAGCCCGGTCCTGGCTG GCGGACGTGGCTGAGAAAGACCCGGACGAGGACTGCAGGACGCTGGCACTGAGGGCCCTGCTGCTTCTGCAGAGA CTCAAGAACAGGCTCCTCCCACCCGCGTCTCCCTAGTCCCTGGAGGCCTCCCCAGGACCACCCTCGCCGACAGCA AGGCAGGCGGCTGAGCAGCGGCCTGGAGCAGCAGAGCCAGGCTTTGTAGCGAGGCCAGGTCTTCGGCCGCATCCG GTACGGAGAGTGCAGATGCAGGAAGGCCCGGCCTGCCGCTATTTATAGTGCAGCCAGTCCGCTAAAAATACACTG GGCCTGGGCACTGCCCGCCGGACATGGCAGCCTGGACGTGGGGCTGGGGGCTGTGGGCGCTGGCGGGGTTGA TCCTCTGAGAGCCACCAAGCAGGACAGAGCAGCTCTTGTCCCAGGTCCCTCGGGCTGAGCGCCGTGTCACCAGGA GAATAGTGCTCACAGCCCAGGCAGGTGTGTGGCTCCTGGATGGGCTCGTGGGGCGGGATGGGACAGGGCACGGG ΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑ

MEPAPSEVRLAVREAIHALSSSEDGGHIFCTLESLKRYLGEMEPPALPREKEEFASAHFSPVLRCLASRLSPAWL ELLPHGRLEELWASFFLEGPADQAFLVLMETIEGAAGPSFRLMKMARLLARFLREGRLAVLMEAQCRQQTRPGFI LLRETLLGKVVALPDHLGNRLQQENLAEFFPQNYFRLLGEEVVRVLQAVVDSLQGGLDSSVSFVSQVLGKACVHG RQQEILGVLVPRLAALTQGSYLHQRVCWRLVEQVPDRAMEAVLTGLVEAALGPEVLSRLLGNLVVKNKKAQFVMT QKLLFLQSRLTTPMLQSLLGHLAMDSQRRPLLLQVLKELLETWGSSSAIRHTPLPQQRHVSKAVLICLAQLGEPE LRDSRDELLASMMAGVKCRLDSSLPPVRRLGMIVAEVVSARIHPEGPPLKFQYEEDELSLELLALASPQPAGDGA SEAGTSLVPATAEPPAETPAEIVDGGVPQAQLAGSDSDLDSDDEFVPYDMSGDRELKSSKAPAYVRDCVEALTTS EDIERWEAALRALEGLVYRSPTATREVSVELAKVLLHLEEKTCVVGFAGLRQRALVAVTVTDPAPVADYLTSQFY ALNYSLRQRMDILDVLTLAAQELSRPGCLGRTPQPGSPSPNTPCLPEAAVSQPGSAVASDWRVVVEERIRSKTQR LSKGGPRQGPAGSPSRFNSVAGHFFFPLLQRFDRPLVTFDLLGEDQLVLGRLAHTLGALMCLAVNTTVAVAMGKA LLEFVWALRFHIDAYVRQGLLSAVSSVLLSLPAARLLEDLMDELLEARSWLADVAEKDPDEDCRTLALRALLLLQ RLKNRLLPPASP

FIGURE 4376

 $\label{thm:miclvltifanlfpaactgahertflavkpdgvqrrlvgeivrferkgfklvalklvqaseellrehyaelrer pfygrlvkymasgpvvamvwqgldvvrtsraligatnpadappgtirgdfcievgknlihgsdsvesarreialw fradellcwedsaghwlye$

MARKKVRPRLIAELARRVRALREQLNRPRDSQLYAVDYETLTRPFSGRRLPVRAWADVRRESRLLQLLGRLPLFG LGRLVTRKSWLWQHDEPCYWRLTRVRPDYTAQNLDHGKAWGILTFKGKTESEAREIEHVMYHDWRLVPKHEEEAF TAFTPAPEDSLASVPYPPLLRAMIIAERQKNGDTSTEEPMLNVQRIRMEPWDYPAKQEDKGRAKGTPV WO 2004/030615 PCT/US2003/028547

4750/6881 FIGURE 4380

GCCGAGCCTGGAAACCTGGCCGGCGTCAGGCACATCATCCTGGTCCTCTCAGGAAAGGGGGGGCGTTGGGAAAAGC ACCATCTCCACGGAGCTGGCCCTGGCACTGCGCCATGCAGGCAAGAAGGTGGGAATCCTGGATGTGGACCTGTGT TTCCTGGACCGGGAGCAGCATCTCGCTCATGTCTGTGGGCTTCCTGCTGGAGAAGCCGGACGAGGCCGTGGTG TGGAGAGGCCCCAAGAAAAACGCGCTGATAAAGCAGTTTGTGTCCGACGTGGCCTGGGGGGGAGCTGGACTACCTG GTGGTGGACACGCCCCGGGGACCTCCGATGAGCACATGGCCACCATAGAAGCCCTGCGTCCCTACCAGCCCCTG GGGGCCCTCGTGGTCACCACGCCCCAGGCGGTGTCCGTGGGGGACGTGAGCGGAGCTGACCTTCTGTAGGAAG GTCTTCTCCAGGGGCGGGAGAGGAGCTGGCCCAGCTCGCCGGGGTGCCCTTCTTAGGCTCCGTGCCCCTGGAC $\tt CTCACCTCCATAGCCCAGAAGATTCTGGACGCGACGCCCGCGTGCCTCCCC\underline{TGA}CTAAGGCCACCTTGCAGCCGC$ TTTCCAGGGCCACCAAGGGCTCTGCTCCAGAGAAACAGAGGCCTGGGCTCGGTTCCCGGGCCCTGCA GGGGCAGGCCCAGGCAGCGTCAGCGGGAGAGCTTCTCCCCGACCAGCCCAGCCCAGGATGTGTCGCACCAGCAG $\tt CTCTGCCTGGTTGGCCTGCAGTGCCGTGGTCTGCAGCTGTGAGACGGGGGCGGCCTGGGCTCTCTT$ ${\tt CCCATCCATGTTGCCTACCTGTGCCCCTGGCAGCCGCGTGTCCACACAGTTAGCGGAGCGCAGGACTTCTGCAGT}$ CCTCAGGTGACCCCGGGCCTCCAGCACCCTGGGTCGCTGTCATCTGTGTTTAGCTCGGGGAGTGCCCCCTAAGGG GGCGAACTGACCTCAGGCATGTCTTGTAACTGTAGAGGCGCCTGCCATTAAACGTGTCCGCTGCTGTGGCGACAG

MEAAAEPGNLAGVRHIILVLSGKGGVGKSTISTELALALRHAGKKVGILDVDLCGPSIPRMLGAQGRAVHQCDRG WAPVFLDREQSISLMSVGFLLEKPDEAVVWRGPKKNALIKQFVSDVAWGELDYLVVDTPPGTSDEHMATIEALRP YQPLGALVVTTPQAVSVGDVRRELTFCRKTGLRVMGIVENMSGFTCPHCTECTSVFSRGGGEELAQLAGVPFLGS VPLDPALMRTLEEGHDFIQEFPGSPAFAALTSIAQKILDATPACLP

PCT/US2003/028547

4752/6881 FIGURE 4382

WO 2004/030615 PCT/US2003/028547

4753/6881 FIGURE 4383

MADDAGAAGGPGGPGMGNRGGFRGGFGSGIRGRGRGRGRGRGRGRGRGRGRAEDKEWMPVTKLGRLVKDMKI KSLEEIYLFSLPIKESEIIDFFLGASLKDEVLKIMPVQKQTRAGQRTRFKAFVAIGDYNGHVGLGVKCSKEVATA IRGAIILAKLSIVPVRRGYWGNKIGKPHTVPCKVTGRCGSVLVRLIPAPRGTGIVSARVPKKLLMMAGIDDCYTS ARGCTATLGNFAKATFDAISKTYSYLTPDLWKETVFTKSPYQEFTDHLVKTHTRVSVQRTQAPAVATT

 ${\tt TTCAGCTGGAGCGGCGGCGGCAAC} \underline{{\tt ATG}} {\tt GCAGAGACCGCGGCCGGAGTGGGCCGCTTCAAGACCAACTATGCT}$ GTGGAGCGCAAAATTGAGCCTTTCTACAAGGGCGGAAAAGCACAGCTGGACCAGACTGGCCAGCACCTCTTCTGC GTCTGTGGCACCAGAGTCAACATTCTGGAAGTGGCCTCGGGGGCCGTGCTGCGGAGTCTGGAGCAGGAGGACCAG GAGGACATCACTGCCTTTGACCTCAGCCCTGACAACGAGGTGCTGGTGACAGCCAGTCGGGCATTGCTGCTGGCT CAGTGGGCCTGGCAAGAGGGCAGCGTTACCCGCCTGTGGAAGGCGATACACACGGCCCCCGTGGCCACCATGGCC TTCGACCCCACCTCCACTCTGCTAGCCACAGGTGGCTGTGATGGGGCCGTGCGCGTCTGGGACATCGTGCGGCAC TACGGGACACCACTTCCGAGGCTCGCCCGGTGTCGTGCACCTAGTGGCCTTCCACCCGGACCCTACACGCCTG *AAGATATGTATCATCTGGGACCTTCAGAGCTGCCAGGCCACGAGGACCGTGCCTGTGTTTGAGAGCGTGGAGGCT GCTGTGCTGTTGCCAGAGGAGCCAGTGTCCCAGCTGGGTGTGAAGTCCCCAGGGCTGTACTTTCTGACAGCTGGC GGGCAGGAGCTGACCCACTGCACCCTGGCACACCCCCGCCGGCGTGGTCCTCACCGCCACCGCCGACCACAACCTG TTGCTCTACGAGGCTCGCTCCCTGCGGCTGCAGAAACAGTTCGCTGGCTACAGTGAGGAGGTTTTGGATGTCCGG TTTCTTGGGCCCGAGGACTCCCACGTTGTCGTGGCCTCCAATAGCCCCTGCCTAAAAGTGTTTGAGCTGCAGACG TCAGCCTGCCAGATCCTCCACGGCCACACGGATATCGTCCTGGCCCTGGATGTGTTCCGGAAGGGGTGGCTCTTT GCCAGCTGTGCCAAGGATCAGAGCGTCCGTATCTGGAGAATGAACAAGGCTGGCCAGGTGATGTGCGTGGCTCAG CAGGACTGCACTGTGAAGCTGTGGCCTCTTCCCAAAGCCTTGCTGTCCAAGAACACAGCCCCAGACAACGGCCCT TTCTCAGGCCACCGGCGTGGCCTCTGGTGCGTCCAGTTCTCTCCCATGGACCAGGTGCTGGCCACGGCCTCAGCT GATGGCACCATCAAGCTCTGGGCACTCCAGGACTTCAGCTGTCTCAAGACATTTGAGGGGCACGATGCTTCTGTG ATCAAGAACAACGAGTGTGCGGACGCTGGATGCCCACGAGGACAAGGTCTGGGGGGCTGCACTGCAGCCGGCTG GACGACCACGCCTCACTGGGGCCAGTGACTCCCGAGTCATCCTCTGGAAGGATGTGACCGAGGCGGAGCAGGCA GAGGAGCAGGCAGGCAAGAGGAGCAGGTGGTCAGGCAGCAAGAGCTGGACAACCTGCTGCATGAGAAGCGGTAC CTGCGGGCCTGGCCTGCCATCTCCCTGGATCGGCCCCACACCGTGCTGACTGTCATCCAGGCCATCCGGAGG GACCCTGAGGCCTGCGAGAAGCTGGAAGCCACCATGCTCCGACTGCGGCGCGACCAGAAAGAGGCCCTGCTGCGC TTCTGCGTCACGTGGAACACCAACTCGCGGCACTGCCACGAGGCCCAGGCCGTGCTGGGTGTGCTCTTGAGGCGA GAĢGCCCCGAGGAGCTGCTGGCCTACGAAGGCGTGCGGGCAGCGCTTGAGGCCCTGCTGCCCTACACTGAGCGG CACTTTCAGCGGCTCAGCAGGACCCTCCAGGCCGCCTTTCTTGGACTTCCTGTGGCACAACATGAAGCTCCCT $\tt GTGCCGGCCGCCCCCCCCCCTGGGAAACCCATAAAGGCGCACTGCCC\underline{TAG} \tt CCGGTCCGGCCTCTCTCCAGT$

MAETAAGVGRFKTNYAVERKIEPFYKGGKAQLDQTGQHLFCVCGTRVNILEVASGAVLRSLEQEDQEDITAFDLS
PDNEVLVTASRALLLAQWAWQEGSVTRLWKAIHTAPVATMAFDPTSTLLATGGCDGAVRVWDIVRHYGTHHFRGS
PGVVHLVAFHPDPTRLLLFSSATDAAIRVWSLQDRSCLAVLTAHYSAVTSLAFSADGHTMLSSGRDKICIIWDLQ
SCQATRTVPVFESVEAAVLLPEEPVSQLGVKSPGLYFLTAGDQGTLRVWEAASGQCVYTQAQPPGPGQELTHCTL
AHTAGVVLTATADHNLLLYEARSLRLQKQFAGYSEEVLDVRFLGPEDSHVVVASNSPCLKVFELQTSACQILHGH
TDIVLALDVFRKGWLFASCAKDQSVRIWRMNKAGQVMCVAQGSGHTHSVGTVCCSRLKESFLVTGSQDCTVKLWP
LPKALLSKNTAPDNGPILLQAQTTQRCHDKDINSVAIAPNDKLLATGSQDRTAKLWALPQCQLLGVFSGHRRGLW
CVQFSPMDQVLATASADGTIKLWALQDFSCLKTFEGHDASVLKVAFVSRGTQLLSSGSDGLVKLWTIKNNECVRT
LDAHEDKVWGLHCSRLDDHALTGASDSRVILWKDVTEAEQAEEQARQEEQVVRQQELDNLLHEKRYLRALGLAIS
LDRPHTVLTVIQAIRRDPEACEKLEATMLRLRRDQKEALLRFCVTWNTNSRHCHEAQAVLGVLLRREAPEELLAY
EGVRAALEALLPYTERHFQRLSRTLQAAAFLDFLWHNMKLPVPAAAPTPWETHKGALP

GGCACGAGGCAAGAGGAGGCCAGCACCCCCGCTGCCTCCACGCTGCCCACCGCCAACGGGGCCCGACCGGC GCGCTCCGGGACTGCGCTTTCCGGCCCCGACGCGCCCCAACGGCCCTTGCAGCCCGGCCCGGCCCTCGCTTGGC GGCGGTGTCGACTTCTACGACGTCGCCTTCAAGGTCATCCTGGTGGGGGACTCGGGTGTGGGGAAGACCTGTCTG CTGGTGCGATTCAAGGATGGTGCTTTCCTGGCGGGGACCTTCATCTCCACCGTAGGCATTGACTTCCGGAACAA GTTCTGGACGTGGATGTGAAGGTGAAGCTGCAGATGTGGGACACAGCTGGTCAGGAGCGGTTCCGCAGTGTT ACCCATGCCTACTACCGGGATGCTCATGCTCTGCTGCTGCTCTACGATGTCACCAACAAGGCCTCCTTTGACAAC ATCCAGGCCTGGCTGACCGAGATCCACGAGTACGCCCAGCACGACGTGGCGCTCATGCTGCTGCGGGAACAAGGTG GACTCTGCCCATGAGCGTGTGGTGAAGAGGGAGGACGGGGAGAAGCTGGCCAAGGAGTATGGACTGCCCTTCATG GAGACCAGCGCCAAGACGGGCCTCAACGTGGACTTGGCCTTCACAGCCATAGCAAAGGAGTTGAAGCAGCGCTCC ATGAAGGCTCCCAGCGAGCCGCGCTTCCGGCTGCATGATTACGTTAAGAGGGGAGGGTCGAGGGGCCTCCTGCTGC $\tt CGCCCT{\underline{TGA}} ACCTGGCTGAGCTCAGTCCTCTGGAGGAGGCCGCCCAGTCCCTAGAAGGCTGGACAGAGGGTCTCC$ AGGCCCTTCTGACTTTGTCCCAGTGGCCAACGCCCGAGTGTCTGTTTTCAGGAGCCCCAGGTCAAGCCTTGTC CCTTCCTCCCAGCAACAGTCCCAACAAGCAGGCTTCTGAGAGCCCGTGGCCGCACACTGGCCGCCACGGAAA AGCAGTCTTCTGCACGGGACGGGGAGCGGCAAGTGGACAGACTTTGCCACGGTGCTCTGCTCCCCCCTCCTGGGC ACGTCCAGGTGAGGGAGGGCTGGGGCTGCCACCGCACAGTGCCTAACCCTAGAAAAGCCATGTCTTCAGCCGC ACATGCTCAGGCAGCTAAGGGAGGACGCCTGCCCACGCCTGGGACAGAAGGCTTCACTGCTAATCACATCGTGCA TCTGTGTGTCCTGGGAGCTGCCTGCTCCCGGCCCACCCTCTAGGAGGGCTCTGGCTCAAACAGCAATAGGGTCTTC CTCACTGACCTTGGAGGATGCCTGTGGCCTTGTGATAAAATGTGGGAAATCACAGAAAAACACCAGAAACAACAAC TGCCAGCCCGGCCTGGCCACAGGTGAGGTCTGTGATTTCCGAGCACGCTCCACCTTGCACTCAACTTGGCCTTTT ΑΑΑΑΑΑΑΑΑΑ

 ${\tt MLVGDSGVGKTCLLVRFKDGAFLAGTFISTVGIDFRNKVLDVDGVKVKLQMWDTAGQERFRSVTHAYYRDAHALL} \\ {\tt LLYDVTNKASFDNIQAWLTEIHEYAQHDVALMLLGNKVDSAHERVVKREDGEKLAKEYGLPFMETSAKTGLNVDL} \\ {\tt AFTAIAKELKQRSMKAPSEPRFRLHDYVKREGRGASCCRP}$

GGGCGGAGGTGCTTCCCAAGGACCGTAGATGCCTCTCTAGAGCATGAGCTCAGGCAAGAGTGCCCGCTACAACC GCTTCTCCGGGGGGCCCAGCAATCTTCCCACCCCAGACGTCACCACAGGGACCAGAATGGAAACGACCTTCGGAC GCCCCCATCAGCACTCCCGCCGCTCCGACTCCGCCATCTCTGTCCGCTCCCTGCACTCAGAGTCCAGCATGTC TCTGCGCTCCACATTCTCACTGCCCGAGGAGGAGGAGGAGCCGGAGCCACTGGTGTTTGCGGAGCAGCCCTCGGT GAAGCTGTGCTGTCAGCTCTGCAGCGTCTTCAAAGACCCCGTGATCACCACGTGTGGGCACACGTTCTGTAG GAGATGCGCCTTGAAGTCAGAGAAGTGTCCCGTGGACAACGTCAAACTGACCGTGGTGGTGAACAACATCGCGGT GGCCGAGCAGATCGGGGAGCTCTTCATCCACTGCCGGCACGGCTGCCGGGTAGCGGGCAGCGGGAAGCCCCCCAT CTTTGAGGTGGACCCCGAGGGTGCCCCTTCACCATCAAGCTCAGCGCCCGGAAGGACCACGAGGGCAGCTGTGA CTACAGGCCTGTGCGGTGTCCCAACAACCCCAGCTGCCCCCGCTGCTCAGGATGAACCTGGAGGCCCACCTCAA GGAGTGCGAGCACATCAAATGCCCCCACTCCAAGTACGGGTGCACGTTCATCGGGAACCAGGACACTTACGAGAC CCACCTGGAGACTTGCCGCTTCGAGGGCCTGAAGGAGTTTCTGCAGCAGACGGATGACCGCTTCCACGAGATGCA CGTGGCTCTGGCCCAGAAGGACCAGGAGATCGCCTTCCTGCGCTCCATGCTGGGAAAGCTCTCGGAGAAGATCGA CCAGCTAGAGAAGAGCCTGGAGCTCAAGTTTGACGTCCTGGACGAAAACCAGAGCAAGCTCAGCGAGGACCTCAT GGAGTTCCGGCGGGACGCATCCATGTTAAATGACGAGCTGTCCCACATCAACGCGCGGCTGAACATGGGCATCCT AGGCTCCTACGACCCTCAGCAGATCTTCAAGTGCAAAGGGACCTTTGTGGGCCCACCAGGGCCCTGTGTGGTGTCT CTGCGTCTACTCCATGGGTGACCTGCTCTTCAGTGGCTCCTCTGACAAGACCATCAAGGTGTGGGGACACATGTAC CACCTACAAGTGTCAGAAGACACTGGAGGGCCATGATGGCATCGTGCTGGCTCTCTGCATCCAGGGGTGCAAACT CTACAGCGGCTCTGCAGACTGCACCATCATTGTGTGGGACATCCAGAACCTGCAGAAGGTGAACACCATCCGGGC CCATGACAACCCGGTGTGCACGCTGGTCTCCTCACACAACGTGCTCTTCAGCGGCTCCCTGAAGGCCATCAAGGT CTGGGACATCGTGGGCACTGAGCTGAAGTTGAAGAAGGAGCTCACAGGCCTCAACCACTGGGTGCGGGCCCTGGT GGCTGCCCAGAGCTACCTGTACAGCGGCTCCTACCAGACAATCAAGATCTGGGACATCCGAACCCTTGACTGCAT CCACGTCCTGCAGACGTCTGGTGGCAGCGTCTACTCCATTGCTGTGACAAATCACCACATTGTCTGTGGCACCTA CGAGAACCTCATCCACGTGTGGGACATTGAGTCCAAGGAGCAGGTGCGGACCCTCACGGGCCACGTGGGCCACGT GTATGCCCTGGCGGTCATCTCGACGCCAGACCAGACCAAAGTCTTCAGTGCATCCTACGACCGGTCCCTCAGGGT CCGGGGCCGACTCTTCTCAGGGGCTGTGGATAGCACTGTGAAGGTTTGGACTTGC<u>TAA</u>CAGGATCCAGGCCAGGC TGTGGTTTCCCCTGAACCAGCCCTGGACCTTTCTGAGCCAGGCTGGCCACATGGGGTGGTCTCGGGGTTTCTGCC TGCCCGTGGGCATAGGTGGACAGGCTCTGGCAGCCGGGCAGTGCCCTCCCCGTCCCATGCTCGGCGAGCCTCCC TCTACTCGGCACTGTCCTTGCTGCCCAGCCCCTCTCTGGGTGCCAGGTACGACGCTTGCCCCGGCCCACCCTCCA TCCCCACCCTCCATCCCCACCCTAGATGGAGCGAGGGCCTTTTTACTCACCTTTTCTACCGTTTTTAGACTGTAT GTAGATTTGGTTACCTCCTGGTTGAAATAAATGCTCCACAGACTGTGGCTGTGAGTGGGGACAGCTCCTCGGGAC AAGGGGGCTGTGTGGGCCTTGAGGTTGGTGCACAGGCACTGGCTGTGAGGTGGGGGGGCATGGGGCAGTT AGCTGCTGGCCTCCAGTCCCATCTCCCCCAACACATGTGCCCCCAAAAAGTGAGCCAGGCACCTCTGTTTCCTGC TGTTTATTGACAGCCGACGGCAGCGCCTTGCCCAGACCTCCCCTGCCCACCTGCTGGAGCCCAGCCTGTGCCGCC CTCTGAGGAGAGGCCTGGGGGACAGCTGGGCACGTCCACTCGCAGGGAAACACGGGGTGAGACAGCAGGAAGGG GCCCTGCACGCCGGGACGCCACCTCCGCCAGCCGCCTCCACCCGCCCACACCACAATCGCTGGTTTTCGGCATT TTTTAAATTTTTTTTTAAGAAACGTCAAAGTTGTGCCCAACACTGTGGATCAGCAAACACGATAGAGGAGACCA AAGGCACAACCTCGAGTTCTTGGGGCGCAGAGAACTTAGGAGAGCACCGGAGGAGCCCCCGGCAGAGCACCCG ACAGCCTGGGCCTCTAACAGCTTTTGTCCGGAGCTAGACTTCGTGTCCTTTCAGTTGGTAAATGGTTTTCTATAG AATCAATAATATTCTTTCTTTAAATATATATTTGTTAAAGTTATACCTTTTTGTTTCTCTGGGGAAATCCGCCT

MPPISTPRRSDSAISVRSLHSESSMSLRSTFSLPEEEEEPEPLVFAEQPSVKLCCQLCCSVFKDPVITTCGHTFC RRCALKSEKCPVDNVKLTVVVNNIAVAEQIGELFIHCRHGCRVAGSGKPPIFEVDPRGCPFTIKLSARKDHEGSC DYRPVRCPNNPSCPPLLRMNLEAHLKECEHIKCPHSKYGCTFIGNQDTYETHLETCRFEGLKEFLQQTDDRFHEM HVALAQKDQEIAFLRSMLGKLSEKIDQLEKSLELKFDVLDENQSKLSEDLMEFRRDASMLNDELSHINARLNMGI LGSYDPQQIFKCKGTFVGHQGPVWCLCVYSMGDLLFSGSSDKTIKVWDTCTTYKCQKTLEGHDGIVLALCIQGCK LYSGSADCTIIVWDIQNLQKVNTIRAHDNPVCTLVSSHNVLFSGSLKAIKVWDIVGTELKLKKELTGLNHWVRAL VAAQSYLYSGSYQTIKIWDIRTLDCIHVLQTSGGSVYSIAVTNHHIVCGTYENLIHVWDIESKEQVRTLTGHVGT VYALAVISTPDQTKVFSASYDRSLRVWSMDNMICTQTLLRHQGSVTALAVSRGRLFSGAVDSTVKVWTC

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FIGURE 4390

FIGURE 4391

MALVASVRVPARVLLRAGARLPGAALGRTERAAGGGDGARRFGSQRVLVEPDAGAGVAVMKFKNPPVNSLSLEFL TELVISLEKLENDKSFRGVILTSDRPGVFSAGLDLTEMCGRSPAHYAGYWKAVQELWLRLYQSNLVLVSAINGAC PAGGCLVALTCDYRILADNPRYCIGLNETQLGIIAPFWLKDTLENTIGHRAAERALQLGLLFPPAEALQVGIVDQ VVPEEQVQSTALSAIAQWMAIPDHARQLTKAMMRKATASRLVTQRDADVQNFVSFISKDSIQKSLQMYLERLKEE KG

GGCCCGCGGGACTCAGACCAGCGGGGAGCGCGGCCTCCGCCCTTGGGGCCCTCCCGCCGGGGCCGGAGACCCAAGC CCCCAACGCCAGGCCCTGCCCTGGAAGCGCTCGCGGCCCCGGCGCCTGGACGGGGAGTTGCTGCTCTTTGGCGTA AATTGCAATCGATTAGGGATCGTTTCTCAGAATCAAGTTAGAAGTGAGAGTTCAGATAAGTGAGGCCGCCATTGC ATAATAAAAGTCCAGCACTAGGGCTCCTTCACCTACCAAACGCAAAGACCGCTCAGATGAGAAGTCCAAGGATC GCTCAAAAGATAAAGGGGCCCACCAAGGAGTCGAGTGAGAAGGATCGCGGCCGGGACAAAACCCGAAAGAGGCGCA GCGCTTCCAGTGGTAGCAGCAGTACCAGGTCTCGGTCCAGCTCCAGCTCCAGCTCCAGCACCAGCACTG GCTCAAGCAGTGGCTCCAGCTCTTCCTCAGCATCCAGCCGCTCAGGAAGCTCCAGCACCTCCCGCAGCTCCAGCT CTAGCAGCTCTTCTGGCTCTCCAAGTCCTTCTCGGCGCAGACACGACAACAGGAGGCGCTCCCGCTCCAAATCCA AACCACCTAAAAGAGATGAAAAGGAGAGGAAAAGGCGGAGCCCATCTCCTAAGCCCACCAAAGTGCACATTGGGA GACTCACCCGGAATGTGACAAAGGATCACATCATGGAGATATTTTCCACCTATGGGAAAATTAAAATGATTGACA AGAAGGCGCTGAAGCACATGGATGGAGGACAAATTGATGGCCAGGAGATCACTGCCACCGCCGTGCTGGCCCCCT GGCCTAGGCCACCCCCAGGAGATTCAGCCCTCCCAGGAGAATGTTGCCACCACCGCCTATGTGGCGCAGGTCTC CCCCACGGATGAGGAGAAGGTCCCGCTCCCCGAGGCGCAGGTCCCCCGTGCGCCGGAGATCACGGTCCCCGGGCC GCCGCCGCCACAGGAGCCGCTCCAGCTCCAACTCCTCCCGA<u>TAA</u>ACAGGCCACTGAAGCTCTCGCCCCTGTAACT TATACCCCACCCAGCTCAGTTTTGTCACTTTTCTAGCCAAAGGAAGACCAGTAGGAAAGCAAACCCTTGACTCTG GCAGGATTTGCAGGCAGCAGCAGCACCCCTCTGCCAGCCGGGCCCCGGCTGCAGAAGTGCTGTTTGGATG CTGTGTGCCTGTCAAGATTCCCTCCGGTTTTCTGGCTAGAAAGCTCATCCGTTTCCGGTTTCTAAGAGTCAGTTC AGTGGCAGAGCCACCAGGGAAAAGTGAGGCTCTTGGGGGTGGTTTGACCCTGCTTACCTGGGAGCACACTTTTCC CTTCCCCGATGACCTGGGATGGTGGCCAGGCCGTGCCCTTGCTGTTGCTGGGCAGTGTCCTTTTGGAAAGGGAGC TGCCCCAGGCTTTAGTGCAGCTGCCAACCCTGTTAGGCCTGGCCTCTCGAGGCCTCTTCTGACCTCAAGGGTCAC GCACCCCACCACTGTACTCTGAAATTGGCGAGTGAGTGGAGAGCCAGCTCTGCGGAGTCATCACGCAGCCATGGT CTTTCATTGTACAGTCAGTACTATAAAATTTCTCTTTTTGAGTTTTATACCTTTGTAGCATTTTAGATGACATTGT ΑΑΑΑΑΑΑΑΑΑΑΑ

GAGCGGCCCCCGCCTCGGCGGCTGAGGAAGCAGGAGGAGGTGGCGGCGGCGGGAAGATGCTGCTCTTTGGCGTA ${\tt AATTGCAATCGATTAGGGATCGTTTCTCAGAATCAAGTTAGAAGTGAGAGTTCAGATAAGTGAGGCCGCCATTGC}$ TGCTTTGAACACCTCAGAAGGGGAGA**ATG**GATTTATCAGGAGTGAAAAAGAAGAGCTTGCTAGGAGTCAAAGAAA ATAATAAAAAGTCCAGCACTAGGGCTCCTTCACCTACCAAACGCAAAGACCGCTCAGATGAGAAGTCCAAGGATC GCTCAAAAGATAAAGGGGCCACCAAGGAGTCGAGTGAGAAGGATCGCGGCCGGGACAAAACCCGAAAGAGGCGCA GCGCTTCCAGTGGTAGCAGCACTACCAGGTCTCGGTCCAGCTCGACTTCCAGCTCAGCACCAGCACTG GCTCAAGCAGTGGCTCCAGCTCTTCCTCAGCATCCAGCCGCTCAGGAAGCTCCAGCACCTCCCGCAGCTCCAGCT CTAGCAGCTCTTCTGGCTCTCCAAGTCCTTCTCGGCGCAGACACGACAACAGGAGGCGCTCCCGCTCCAAATCCA AACCACCTAAAAGAGATGAAAAGGAGAGAAAAGGCGGAGCCCATCTCCTAAGCCCACCAAAGTGCACATTGGGA GACTCACCCGGAATGTGACAAAGGATCACATCATGGAGATATTTTCCACCTATGGGAAAATTAAAATGATTGACA AGAAGGCGCTGAAGCACATGGATGGAGGACAAATTGATGGCCAGGAGATCACTGCCACCGCCGTGCTGGCCCCCT GGCCTAGGCCACCCCCAGGAGATTCAGCCCTCCCAGGAGAATGTTGCCACCACCGCCTATGTGGCGCAGGTCTC CCCCACGGATGAGGAGAAGGTCCCGCTCCCCGAGGCGCAGGTCCCCCGTGCGCCCGGAGATCACGGTCCCCGGGCC GCCGCCGCCACAGGAGCCGCTCCAGCTCCAACTCCTCCCGATAAACAGGCCACTGAAGCTCTCGCCCCTGTAACT TATACCCCACCCAGCTCAGTTTTGTCACTTTTCTAGCCAAAGGAAGCCAGTAGGAAAGCAAACCCTTGACTCTG GCAGGATTTGCAGGCAGCAGCACCCCTCTGCCAGCCCCGGCCCCGGCTGCAGAAGTGCTGTTGGTTTGGATG CTGTGTGCCTGTCAAGATTCCCTCCGGTTTTCTGGCTAGAAAGCTCATCCGTTTCCGGTTTCTAAGAGTCAGTTC AGTGGCAGAGCCACCAGGGAAAAGTGAGGCTCTTGGGGGTGGTTTGACCCTGCTTACCTGGGAGCACACTTTTCC CTTCCCCGATGACCTGGGATGGTGGCCAGGCCGTGCCCTTGCTGTTGCTGGGCAGTGTCCTTTTGGAAAGGGAGC TGCCCCAGGCTTTAGTGCAGCTGCCAACCCTGTTAGGCCTGGCCTCTCGAGGCCTCTTCTGACCTCAAGGGTCAC GCACCCACCACTGTACTCTGAAATTGGCGAGTGAGTGGAGAGCCAGCTCTGCGGAGTCATCACGCAGCCATGGT CTTTCATTGTACAGTCAGTACTATAAAATTTCTCTTTTGAGTTTTATACCTTTGTAGCATTTTAGATGACATTGT ΑΑΑΑΑΑΑΑΑΑΑΑ

MDLSGVKKKSLLGVKENNKKSSTRAPSPTKRKDRSDEKSKDRSKDKGATKESSEKDRGRDKTRKRRSASSGSSST RSRSSSTSSSGSSTSTGSSSGSSSSSASSRSGSSSTSRSSSSSSSSGSPSPSRRRHDNRRRSRSKSKPPKRDEKE RKRRSPSPKPTKVHIGRLTRNVTKDHIMEIFSTYGKIKMIDMPVERMHPHLSKGYAYVEFENPDEAEKALKHMDG GQIDGQEITATAVLAPWPRPPPRRFSPPRRMLPPPPMWRRSPPRMRRRSRSPRRRSPVRRRSRSPGRRRHRSRSS SNSSR

 ${\tt TCCAGGCCTTGCAGCGGCTCCAT} \underline{{\tt ATG}} {\tt ACCATCTTCTCCCAGAGCGTCTCACCATGTGGGAAGTTTCTGGCGGCTG}$ GCAACAATTACGGGCAGATTGCCATCTTCAGCTTGTCCTCTGCTTTGAGCTCAGAAGCCAAAGAGGAAAGTAAGA AGCCGGTGGTGACTTTCCAAGCCCATGATGGGCCCGTCTATAGCATGGTTTCCACCGATCGACATCTGCTTAGTG CTGGGGATGGGGAGGTGAAGGCCTGGCTTTGGGCGGAGATGCTCAAGAAGGGCTGTAAGGAGCTGTGGCGTCGTC AGCCTCCATACAGGACCAGCCTGGAAGTGCCTGAGATCAACGCTTTGCTGCTGGTCCCCAAGGAGAATTCCCTCA TCCTGGCTGGGGGAGACTGTCAGTTGCACACTATGGACCTTGAAACTGGGACTTTCACGAGGGTCCTCCGGGGCC ACACAGACTACATCCACTGCCTGGCACTGCGGGAAAGGAGCCCAGAGGTGCTGTCAGGTGGCGAGGATGGAGCTG TICGACTTTGGGACCTGCGCACAGCCAAGGAGGTCCAGACGATCGAGGTCTATAAGCACGAGGAGTGCTCGAGGC $\tt CCCTCTGGCACCTCCGATCCTCCACCACCACCATCTTCCCCATCCGGGCGCCACAGAAGCACGTCACCTTCT$ ${\tt ACCAGGACCTGATTCTGTCAGCTGGCCAGGGCCGCTGCGTCAACCAGTGGCAGCTGAGCGGGGAGCTGAAGGCCCC}$

MTIFSQSVSPCGKFLAAGNNYGQIAIFSLSSALSSEAKEESKKPVVTFQAHDGPVYSMVSTDRHLLSAGDGEVKA WLWAEMLKKGCKELWRRQPPYRTSLEVPEINALLLVPKENSLILAGGDCQLHTMDLETGTFTRVLRGHTDYIHCL ALRERSPEVLSGGEDGAVRLWDLRTAKEVQTIEVYKHEECSRPHNGRWIGCLATDSDWMVCGGGPALTLWHLRSS TPTTIFPIRAPQKHVTFYQDLILSAGQGRCVNQWQLSGELKAQVPGSSPGLLSLSLNQQPAAPECKVLTAAGNSC RVDVFTNLGYRAFSLSF

MARGSLRRLLRLLVLGLWLALLRSVAGEQAPGTAPCSRGSSWSADLDKCMDCASCRARPHSDFCLGCAAAPPAPF RLLWPILGGALSLTFVLGLLSGFLVWRRCRRREKFTTPIEETGGEGCPAVALIQ

 ${\tt GGCACGAGGATCTCCTTCGCAGTGCAGCTCCTTCAACCTCGCC} \underline{{\tt ATC}} {\tt GCCTCTGCCGGAATGCAGATCCTGGGAGT}$ $\tt CGTCCTGACACTGCTGGGCTGGATGGCCTGGTCTCCTGTGCCCTGTCCCATGTGGAAGGTGACCGCTTTCAT$ GATGCAGTGCAAGGTGTACGACTCACTGCTGGCGCTGCCACAGGACCTGCAGGCTGCACGTGCCCTCTGTGTCAT $\tt CGCCCTCCTTGTGGCCCTGTTCGGCTTGCTGGTCTACCTTGCTGGGGCCCAAGTGTACCACCTGTGTGGAGGAGAA$ GGATTCCAAGGCCCGCCTGGTGCTCACCTCTGGGATTGTCTTTGTCATCTCAGGGGTCCTGACGCTAATCCCCGT GTGCTGGACGCCCATGCCGTCATCCGGGACTTCTATAACCCCCTGGTGGCTGAGGCCCAAAAGCGGGAGCTGGG GGATATTTAAAATTCATTTGAAAACTGAGCCAAGGTGTTGACTCAGACTCTCACTTAGGCTCTGCTGTTTCTCAC $\verb|CCTTGGATGATGGAGCCAAAGAGGGGATGCTTTGAGATTCTGGATCTTGACATGCCCATCTTAGAAGCCAGTCAA| \\$ GCTGCTGGGGGCTGGGCTTCCCTAGATGTCACTGGACAGCTGCCCCCCATCCTACTCAGGTCTCTGGAGCTCCTC TCTTCACCCCTGGAAAAACAAATGATCTGTTAACAAAGGACTGCCCACCTCCGGAACTTCTGACCTCTGTTTCCT CCGTCCTGATAAGACGTCCACCCCCAGGGCCAGGTCCCAGCTATGTAGACCCCCGCCCCCAGCTCCAACACTGC ACCCTTCTGCCCTGCCCCCTCGTCTCACCCCCTTTACACTCACATTTTTATCAAATAAAGCATGTTTTGTTAGT **GCAAAAAAAAAAAAAAAAA**

MASAGMQILGVVLTLLGWVNGLVSCALPMWKVTAFIGNSIVVAQVVWEGLWMSCVVQSTGQMQCKVYDSLLALPQ DLQAARALCVIALLVALFGLLVYLAGAKCTTCVEEKDSKARLVLTSGIVFVISGVLTLIPVCWTAHAVIRDFYNP LVAEAQKRELGASLYLGWAASGLLLLGGGLLCCTCPSGGSQGPSHYMARYSTSAPAISRGPSEŸPTKNYV

GCAGATGTGTCGGGCCTGGTGAGAGGGTGAGGCGAGACGGCCCGATCGCCCAGGGCCCCGGAAGCTGCGGAGGTC ACCCCGCCTGGCCTTAGCTCAGGGACACCCTGGATTCACGTGGGAGCCCCTGCTCCTGCCTCCCCGTCCCACC ${\tt ACTGAAGCTGTTGGGCCAGGCCAGTC} \underline{{\tt ATG}} {\tt CTAGAACGGCCTCCTGCACTGGCCCATGCCCACGGAGGGCA}$ CCCCGCCACCTCTGAGTGGCACCCCCATCCCAGTCCCAGCCTACTTCCGCCACGCAGAACCTGGATTCTCCCTCA AGAGGCCCAGGGGGCTCAGCCGGAGCCTCCCACCTCCGCCCCTGCCAAGGGCAGCATTCCCATCAGCCGCCTCT TCCCTCCTCGGACCCCAGGCTGGCACCAGCTGCAGCCCCGGCGGGTGTCATTCCGGGGCGAGGCCTCAGAGACTC TGCAGAGCCCTGGGTATGACCCAAGCCGGCCAGAGTCCTTCTTCCAGCAGAGCTTCCAGAGGCTCAGCCGCCTGG TGTCACCATTCCGGGGCCCCAAGGACCGGGCCCGCAAGTTGGCCGAGGTGGGCAGCCACGAGAAGGTGGGCAGC ACCCATGCTGCGGGCTGGAGCAGGCCTGGGAGGAGGGGGGCATCCTGTACCTGCAGACGGAGCTGTGCGGGC CGCTGCTTGCCCTGGCCCATCTGCACAGCCAGGCCTGGTGCACCTTGATGTCAAGCCTGCCAACATCTTCCTGG GGCCCCGGGGCCGCTGCAAGCTGGGTGACTTCGGACTGCTGGTGGAGCTGGGTACAGCAGGAGCTGGTGAGGTCC AGGAGGGAGACCCCCGCTACATGGCCCCCGAGCTGCTGCAGGGCTCCTATGGGACAGCAGCGGATGTGTTCAGTC TGGGCCTCACCATCCTGGAAGTGGCATGCAACATGGAGCTGCCCCACGGTGGGGAGGGCTGGCAGCAGCTGCGCC AGGGCTACCTGCCCCTGAGTTCACTGCCGGTCTGTCTTCCGAGCTGCGTTCTGTCCTTGTCATGATGCTGGAGC CAGACCCCAAGCTGCGGGCCACGGCCGAGGCCCTGCTGCACTGCCTGTGTTGAGGCAGCCGCGGGCCTGGGGTG TGCTGTGGTGCATGGCAGCGGAGGCCCTGAGCCGAGGGTGGGCCCTGTGGCAGGCCCTGCTTGCCCTGCT CACCCTGCAGTTTGCTCCTGGACAGCAGCTTCTCCAGCAACTGGGATGACGACAGCCTAGGGCCTTCACTCTCCC CTGAGGCTGTCCTGGCCCGGACTGTGGGGAGCACCTCCACCCCCGGAGCAGGTGCACACCCAGGGATGCCCTGG ACCTAAGTGACATCAACTCAGAGCCTCCTCGGGGGCTCCTTCCCCTCCTTTGAGCCTCGGAACCTCCTCAGCATGT CGTCGCCCTTGAAAGCTGGGGCCCCTCGGGAACTCCCATGGTCTTCTCTGCCTGGCCGTGTCTAATAAAAAGTAT TTGAACCTTGAAAAAAAAAAAAAAGAAG

PCT/US2003/028547

4773/6881 FIGURE 4403

WO 2004/030615

MLERPPALAMPMPTEGTPPPLSGTPIPVPAYFRHAEPGFSLKRPRGLSRSLPPPPPPAKGSIPISRLFPPRTPGWH QLQPRRVSFRGEASETLQSPGYDPSRPESFFQQSFQRLSRLGHGSYGEVFKVRSKEDGRLYAVKRSMSPFRGPKD RARKLAEVGSHEKVGQHPCCVRLEQAWEEGGILYLQTELCGPSLQQHCEAWGASLPEAQVWGYLRDTLLALAHLH SQGLVHLDVKPANIFLGPRGRCKLGDFGLLVELGTAGAGEVQEGDPRYMAPELLQGSYGTAADVFSLGLTILEVA CNMELPHGGEGWQQLRQGYLPPEFTAGLSSELRSVLVMMLEPDPKLRATAEALLALPVLRQPRAWGVLWCMAAEA LSRGWALWQALLALLCWLWHGLAHPASWLQPLGPPATPPDSPPCSLLLDSSFSSNWDDDSLGPSLSPEAVLARTV GSTSTPRSRCTPRDALDLSDINSEPPRGSFPSFEPRNLLSMFEDTLDPT

GGCCACCGCCGCCGCCGCCGCGAGCTGTCCCTGCGGCGCTCTGCCTTGGCGAGCCGACCGCAGTGCGCTC AGGCGTCCGGTGCGTCCCCAGCCTCCGCCCCGGCGCGGGGGGCGACCGCACCGCGTGCGCAGCGCCGGAGGGGC CAGGCAGTGATGGGCCTTCCCGCGCTGCGGCCCCACTGAGGAGGAGGCTCGGGGACAGCAGGAGCACGGGCTGCC CGCGCGGTGCGGACCATGCGTTCCTGGCCGGGCCGCCTGCTGGACTGGGCCAGCTCGCCGCCGCACCTGCAG CACAACGAACTGGGCAACATCTACACGCACGGGCTGGCCCTGCTGGGCTTCCTGGTGCTGGTGCCAATGACCATG TCCGTGCTCTATCACCTCTTTATGTGCCACCAAGGGGGCAGCGCTGTGTACGCCCGGCTCCTCGCCCTGGACATG TGTGGGGTCTGCCTTGTCAACACCCTTGGGGCCCTGCCCATCATCCACTGCACCCTGGCCTGCAGGCCCTGGCTG CGCCCGGCTGCCCTGGTGGGCTACACTGTGTTGTCGGGTGTGGCCGGCTGGCGTGCTCTCACCGCCCCCTCCACC AGTGCTCGGCTCCGGGCATTTGGATGGCAGGCTGCCCCCCCTACTGGTATTTGGGGCCCGGGGAGTGGGTCTG GGTTCAGGGGCTCCAGGCTCCTGCCTGCTACCTGCGCATGGACGCACTGGCGCTGCTTGGGGGACTGGTAAAT GTAGCCCGTCTGCCCGAGCGCTGGGGACCTGGCCGCTTTGACTACTGGGGCAACTCCCACCAGATCATGCACCTG CTGAGCGTGGGCTCCATCCTGCAGCTGCACGCCGGCGTCGTGCCCGACCTGCTCTGGGCTGCCCACCACCACGCCTGT CTCGTCTGCAAGGGGCTGGCTCCTTGGATGCTTCCAGCTCATGAGATGTCTCAGCAGGAGCCCTGTTCACCCGTT CTATTTTACTGTGTCAGCTGGAAGGAAACCTTTCCCTCTTGGGACCTCTTTACCCTCTGTGACCTGTGGGGTTAG ACCAGAGAGGGACTCTGGGGTCACGTCTTGCTCTGAGAGTTCAAGTCCTGCCAGGCCGCCAGAGCCTCCT CACCCTATCCTGTTCCTCCCACCAGGCCTGTGGCCAGTCTTCCTGATCTCCATCTTTCTGCCCTGCATACCAGCC CTCCCAGCAGCCACAAGCTTGCCCGCCCTGGCTCCCTCTGCCCAGAGACTATGGAGTAAGGCATTCAGGACAAAA GGACCAAGGGGGCGTGGACCCGTCTTGTACCAGCTGGCCACAGGCACAAGGGCTGCAGCTGCTTCTTCCAGGAAA CTGACACAGGGAGCTCAGCGGCCTCAGATCCTGGGACCCCTGGGCCGTGCCCTCCACCTTGAGTGCCATAC TCCCAACAGCTCCAGGTACCCACCGGGGGATGTGCCTGCTCAGGAAACCTCTTTGCTCCACACAGCATGGGGCTT CAGCTGCTGGCCCAAGGCCAGGAGCGCTGGGTTCTGCAGCAGGGGCTCAGCCTCAGGGGGCGTTAAGACCCTGGATG ACATCAATAAAGGGACAGGAAGGCCATGTTGCCACATGAGCAAGCTTGGGTGCTCCCAAGGTTCAAATACTTTT TATTAGACACGGCCAGGCAGAGAAGACCATGGGAGTTCCCGAGGGGCCCCAGCTTTCAAGGGCGACGGGAGAGAC ACAGGATAAAAGGTTAAAAGTGCAGAGGCAGAGTCTGGGGCTCAGGTTGGGTCTAGGGTGTCCTCAAACAGGCTG AGGAGGTTCCGAGGCTCAAAGGAGGGGAAGGACCCCGAGGAGGCTCTGAGTTGATGTCACTTAGGTCCAGGGCA TCCCTGGGAGGAGAGTAGTGACACTCAGGATCCAAAAGCTAGCCCTGCCCACCCCAGCCCCTGGACCTGCTTA CCTGGGTGTGCACCTGCTCCGGGGGGTGGAGGTGCTCCCCACAGTCCGGGCCAGGACAGCCTCAGGGGAGAGTGA AGGCCTGCAGGAGGGCAGGCGAGACAAGGAGGGTGTCCAGGGCTAGGGAGTGCCGGATGAAACCAGCTCTGTCCC TGTGCAGGCTCCAGGCTCCCGCCTGACAAACAGGCAGGGAGCCACAGTCAGGGACAATAAAAACTTGGTGCACTC TGAAAGCAGCACTTGGACAGCCTTCAAAGTCCTTCCATCTGGCTGCACTCCAAGGCCCCCTCTGTCCTTTTCAGA ACACATGGACTTGGAGGCAGATTTGAAATAAACTTTTAGTAAATGT

MAFLAGPRLLDWASSPPHLQFNKFVLTGYRPASSGSGCLRSLFYLHNELGNIYTHGLALLGFLVLVPMTMPWGQL GKDGWLGGTHCVACLAPPAGSVLYHLFMCHQGGSAVYARLLALDMCGVCLVNTLGALPIIHCTLACRPWLRPAAL VGYTVLSGVAGWRALTAPSTSARLRAFGWQAAARLLVFGARGVGLGSGAPGSLPCYLRMDALALLGGLVNVARLP ERWGPGRFDYWGNSHQIMHLLSVGSILQLHAGVVPDLLWAAHHACPRD

GGGAGACTGTCAGAGGACAACGCCCCTAGGTCTCCTGGGAGACCCCGAAGCGACCCCGGGGCCAGCCCGGGCCG $\tt TGTCCGGGCGAGGGTGACCTATCCTTGGTTGAGAGCG\underline{ATG}GGGACACAAGCCCTGCAGGGCTTCCTCTTTCTCCT$ CTTCCTCCGCTGCTGCAGCCGCGTGGGGCCTCGGCTGGGAGCCTGCACAGTCCAGGCCTGTCCGAATGCTTCCA GGACCAGACGCAGCAACACACAGCTACAGCAGCGCCAGCGACCCCCACGGCCGCTGGGGGCTGGGCGCCACAACTT CTGCCGTAACCCAGACGGTGACGTGCAGCCGTGGTGCTACGTGGCTGAGACAGAGGAGGGCATCTACTGGCGCTA CTGCGACATCCCCTCTGTCACATGCCAGGCTACCTGGGATGCTTTGTGGACTCAGGGGCACCCCCAGCCCTCAG CGGCCCCAGCGCACCTCCACGAAGCTCACGGTCCAGGTGTGCCTACGCTTCTGCCGCATGAAGGGGTACCAGCT GGCGGCCGTGGAGGCCGGTTACGCCTGCTTCTGTGGCTCTGAAAGCGACCTGGCCCGGGGACGCCTGGCCCCCGC AGTGTCGGTGGGCTCCTGCCAGGGGAACTGGACAGCGCCTCAGGGCGTCATCTACTCCCCGGACTTCCCGGACGA GTACGGGCCGGACCGGAACTGCAGCTGGGCCCTGGGCCCAGGCGCCGCGCTGGAGCTCACCTTCCGCCTCTT CGAGCTGGCCGACCCGCGCACCGGCTGGAGCTGCGCGACGCGGCTTCGGGCAGCCTGCTCCGCGCCTTCGATGG CGGCCACGCGCAAGGCTTCGCGCTCACCTACCGCGGGCTGCAGGACGCCGCTGAGGACCCCAGAGGCCCCCGAGGG CGCGATTGGGGGAGCTGTCTGCTGGCTCCGGGAAAAGGGCCCCCGGCGCTGGGGGCCTTCCAGGGGCCCCAGGAGA AGCTGGGCTGTGTGGTACCAACAGCCCCGAGGGTGGCCTTGCCCTGCTCCCCGGGGACCCCCAGGCTGAGGGT ${\tt TCTGCCGGGGCTACCGGCCTC} \underline{{\tt TGA}} \underline{{\tt GTGCCTCCAGCCAGAGCTCCCTGCGCTCATCTCCGCTCTCTGACTC}$ $\tt TGGGCCCGAGGGTCCGCTGGGCCCGCCGGCGAGATGGACACCTGAGATGCTGTGCTGCCCTGCCTCGGC$ CTTGCGCCTGTGTAGGGGCAGCTCGGCCTCTGGTCGCCTTGGGGAGACCAAAAGTCGGACAGGAAACATCTGGTG $\verb|CTATTATCTGGGACTTGGCCTGACCGTGGGGGTCCAGATGGTCCAGGCCCTCTCCATGGACCTGTATGTGGGGGT|\\$ GGTCTCTGGTTTCGGAGGTCTTTGAACCCCTCTGGGGGTGCTCCTGGACTGCCGTCCTCAGTGAGAGGTCACAGG

MGTQALQGFLFLLFLPLLQPRGASAGSLHSPGLSECFQVNGADYRGHQNRTGPRGAGRPCLFWDQTQQHSYSSAS DPHGRWGLGAHNFCRNPDGDVQPWCYVAETEEGIYWRYCDIPSCHMPGYLGCFVDSGAPPALSGPSGTSTKLTVQ VCLRFCRMKGYQLAGVEAGYACFCGSESDLARGRLAPATDCDQICFGHPGQLCGGDGRLGVYEVSVGSCQGNWTA PQGVIYSPDFPDEYGPDRNCSWALGPPGAALELTFRLFELADPRDRLELRDAASGSLLRAFDGARPPPSGPLRLG TAALLLTFRSDARGHAQGFALTYRGLQDAAEDPEAPEGSAQTPAAPLDGANVSCSPRPGAPPAAIGGAVCWLREK GPRRWGLPGAPGEAGLCGTNSPEGWPCPAPPGTPRLRVLPRATGL

PCT/US2003/028547

4778/6881 FIGURE 4408

GGCTGGACTCAGGAAGCCGGAGTCGCAGGAGGCGGCGCCGTTATCAGGACCATGCGGCCGACGGGTCATCACGTC GCGCATCGTGGGTGGAGAGGACGCCGAACTCGGGCGTTGGCCGTGGCAGGGGAGCCTGCGCCTGTGGGATTCCCA CGTATGCGGAGTGAGCCTCAGCCACCGCTGGGCACTCACGGCGCGCACTGCTTTGAAACCTATAGTGACCT TAGTGATCCCTCCGGGTGGATGGTCCAGTTTGGCCAGCTGACTTCCATGCCATCCTTCTGGAGCCTGCAGGCCTA CTACACCCGTTACTTCGTATCGAATATCTATCTGAGCCCTCGCTACCTGGGGAATTCACCCTATGACATTGCCTT GGTGAAGCTGTCTGCACCTGTCACCTACACTAAACACATCCAGCCCATCTGTCTCCAGGCCTCCACATTTGAGTT TGAGAACCGGACAGACTGCTGGGTGACTGGCTGGGGGTACATCAAAGAGGATGAGGCACTGCCATCTCCCCACAC $\tt CCTCCAGGAAGTTCAGGTCGCCATCATAAACAACTCTATGTGCAACCACCTCTTCCTCAAGTACAGTTTCCGCAA$ GGACATCTTTGGAGACATGGTTTGTGCTGGCAATGCCCAAGGCGGGAAGGATGCCTGCTTCGGTGACTCAGGTGG ${\tt ACCCTTGGCCTGTAACAAGAATGGACTGTGGTATCAGATTGGAGTCGTGAGCTGGGGGAGTGGGCTGTGGTCGGCC}$ CAATCGGCCCGGTGTCTACACCAATATCAGCCACCACTTTGAGTGGATCCAGAAGCTGATGGCCCAGAGTGGCAT $\tt GTCCCAGCCAGACCCCTCCTGGCCGCTACTCTTTTTCCCTCTTCTCTGGGCCTCTCCCACTCCTGGGGCCGGTC\underline{\textbf{TG}}$ **AGCCTACCTGAGCCCATGCAGCCTGGGGCCACTGCCAAGTCAGGCCCTGGTTCTCTTCTTGTTTTGGTAATA** AACACATTCCAGTTGATGCCTTGCAGGGCATTCTTCAAAA

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4779/6881 FIGURE 4409

MGARGALLLALLLARAGLRKPESQEAAPLSGPCGRRVITSRIVGGEDAELGRWPWQGSLRLWDSHVCGVSLLSHR WALTAAHCFETYSDLSDPSGWMVQFGQLTSMPSFWSLQAYYTRYFVSNIYLSPRYLGNSPYDIALVKLSAPVTYT KHIQPICLQASTFEFENRTDCWVTGWGYIKEDEALPSPHTLQEVQVAIINNSMCNHLFLKYSFRKDIFGDMVCAG NAQGGKDACFGDSGGPLACNKNGLWYQIGVVSWGVGCGRPNRPGVYTNISHHFEWIQKLMAQSGMSQPDPSWPLL FFPLLWALPLLGPV

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4780/6881 FIGURE 4410A

GCAGCGCGCCCAGGCGGGGTGCGAGTGGCGCAGTTGGAGCCCGTTGCGGCCCCTGAGGAAGCGAGGAGGCGTCG GGGCCATGTACAACGGGATCGGGCTGCCGACGCCCCGGGGCAGCGCACCAACGGCTACGTCCAGCGCAACCTGT CCCTGGTGCGGGGCCGCCGGGGTGAGCGGCCTGACTACAAGGGAGGAGGAGCAACTGCGGCGCCTGGAGGCTGCCC TGGTGAAGCGGCCTAATCCTGACATCCTGGACCACGAGCGCAAGCGGCGCGTCGAGCTGCGATGCCTCGAGCTGG AGGAGATGATGGAAGAGCAGGGTACGAGGAACAGCAAATTCAGGAAAAAGTGGCGACCTTTCGACTCATGTTGC TGGAGAAGGATGTGAACCCTGGGGGCAAGGAGGAGACCCCAGGGCAGAGGCCAGCGGTCACGGAGACTCACCAGT TGGCAGAATTAAATGAGAAGAAGAATGAAAGACTCCGTGCTGCCTTTGGCATCAGTGATTCTTACGTAGATGGCA GCTCTTTTGATCCTCAGCGTCGTGCCCGAGAAGCTAAACAACCAGCTCCTGAGCCTCCCAAACCTTACAGCCTTG GGTCAGAGAGCAGCTCTCCTCGACGGGAGAGAAAGAAAGCTCAAAGAAGAAGAAGCACAGGTCAGAATCTGAGT CCAAGAAACGTAAGCATAGGTCTCCCACTCCAAAGAGCAAACGTAAATCTAAGGACAAAAAGCGAAAGCGGTCTC GAAGTACAACACCAGCCCCCAAGAGCCGCCGGGCCCACCGTTCAACTTCTGCTGACTCTGCTTCCTCCTCCGATA CTTCCCGCAGTCGGTCTCGAAGTGCTGCAGCTAAAACTCATACAACTGCCTTGGCTGGGCGAAGTCCTTCCCCTG CGGAGACTGCTACGAAACAGCCTAGCAGCCCTTATGAAGACAAAGATAAAGACAAGAAGGAGAAATCTGCAACTC GACCTAGCCCCTCTCCGGAAAGGAGCACAGGCCCAGAACCACCTGCTCCCACTCCGCTCCTTGCTGAGCGAC ATGGCGGCTCCCCACAACCCCTTGCAACCACCCCCTTAAGCCAGGAGCCAGTGAACCCCCCATCTGAGGCCTCTC CAACTCGGGACCGTTCACCACCTAAGTCTCCCGAGAAACTTCCCCAGTCTTCTTCCTCAGAGAGCAGCCCACCAT CCCCTCAACCTACCAAAGTTTCTCGGCATGCCAGCTCTTCCCCAGAAAGTCCTAAACCTGCTCCAGCTCCAGGGT CCCACCGAGAGATTTCTTCTCCCCACATCTAAGAATCGCTCACATGGCCGAGCAAAACGGGATAAATCACATT $\verb|CTCATACCCCCTCCGTAGGATGGGGAGGTCCCGTAGCCCTGCCACCGCTAAGAGAGGGGGGATCTCGGAA| \\$ $\tt CCCCTACCAAGAGAGGTCATTCTCGATCCCGATCTCCCCAGTGGCGTAGGTCCAGGTCTGCACAGAGGTGGGGAA$ GATCTAGAAGCCCCCAGCGACGTGGCCGCTCTAGGTCTCCTCAGCGACCAGGCTGGTCTAGGAGCAGAAATACCC AGAGAAGAGGCAGGTCTAGGTCAGCAAGGCGAGGGAGGTCCCACTCTAGATCCCCAGCCACTAGGGGTAGATCTC GTTCTAGAACACCAGCCCGCGGGGCAGGTCCCGCTCTAGAACACCTGCCAGGCGGAGATCACGATCCAGAACTC CCACCAGGCGTAGGTCTCGGTCTAGAACACCAGCCCGGAGGGGCAGGTCTCGGTCTAGAACACCTGCTAGGCGCA GAGGAAGATCCCGCAGTAGAAGCTTAGTTAGACGTGGAAGATCTCACTCTAGAACACCTCAAAGAAGAGGCAGAT CTGGCTCATCTTCAGAGCGGAAAAACAAATCCAGAACATCTCAAAGAAGAAGCAGGTCCAATTCAAGCCCAGAAA CTTTGAGGCGCAGCCTTTCAGGGTCTTCCCCATGCCCTAAACAAAAGTCACAGACACCACCCAGGCGCAGTCGCT CTGGATCCTCCCAACCTAAAGCTAAATCTAGAACGCCACCCAGACGCAGTCGCTCCAGTTCTTCTCCGCCACCTA AACAGAAATCTAAGACACCATCAAGACAAAGTCATTCCAGTTCATCTCATCCTAAAGTGAAATCTGGAACAC CACCGAGGCAAGGGTCCATAACAAGTCCCCAGGCCAATGAGCAATCTGTAACGCCACAGAGACGGAGCTGTTTTG AATCATCACCTGACCCTGAGTTGAAATCTAGGACCCCTTCTAGACATAGCTGCTCAGGGTCCTCCTCCTAGAG TGAAATCTAGCACACCTCCCAGACAGAGCCCATCTAGGTCATCATCTCCACAACCCAAAGTGAAGGCAATAATAT CACCAAGACAAAGAAGCCATTCTGGCTCCTCTTCTCCAAGTCCTAGTAGGGTGACGTCGAGAACAACTCCACGGC GAAGCAGATCAGTATCTCCCTGCTCCAATGTGGAATCCAGATTGTTGCCAAGATACAGTCATTCTGGGTCCTCCT CACCAGATACCAAAGTGAAACCTGAAACACCGCCAAGACAAGTCACTCAGGGTCTATTTCACCATACCCCAAAG TAAAGGCCCAAACTCCACCGGGGCCAAGTCTTTCTGGATCAAAGTCACCATGTCCCCAAGAGAAGTCTAAAGACT CACTAGTTCAAAGTTGCCCTGGATCCCTCTCTCTCTGTGCAGGAGTAAAATCTAGCACCACCAGGCGAGAGCT ATTTTGGTGTCTCATCTCTGCAACTGAAAGGACAATCTCAAACTTCACCAGACCACAGATCTGATACTTCAAGTC CAGAAGTGAGACAGAGTCATTCAGAATCACCATCTCTGCAGAGCAAATCTCAAACATCACCTAAGGGAGGTCGGT CCAGGTCTTCATCTCCAGTCACTGAGCTGGCATCCAGATCTCCAATAAGACAAGATAGAGGTGAGTTCTCAGCGA WO 2004/030615 PCT/US2003/028547

4781/6881 FIGURE 4410B

ACTCGAATTCTCTTTGGGGCAGAGTAGATTGGAGACTGCTGAATCAAAAGAGAAAATGGCCTTACCCCCTCAGG AGGATGCTACTGCATCACCTCCTAGACAGAAAGACAAATTTAGTCCCTTTCCAGTACAGGATAGGCCTGAGTCTT CACTGGTATTCAAAGACACACTTAGAACCCCGCCAAGGGAAAGAAGTGGTGCTGGGTCATCTCCAGAAACAAAAG AGCAAAATAGTGCATTGCCTACGTCAAGCCAAGATGAAGAGTTAATGGAGGTGGTAGAGAAGTCTGAAGAACCCG CAGGCCAAATCCTGTCTCATTTGTCTTCAGAACTTAAAGAAATGTCCACAAGTAACTTTGAATCATCTCCTGAAG TAGAAGAAAGGCCTGCTGTGTCTTTGACTCTTGATCAGAGCCAGTCACAGGCTTCTTTGGAAGCAGTAGAAGTCC CTTCAATGGCCTCATCTTGGGGTGGGCCACATTTTTCTCCAGAACATAAAGAACTGTCTAACTCCCCACTCAGGG AGAACAGCTTTGGATCACCTTTAGAATTTAGAAACTCAGGCCCACTTGGTACAGAAATGAATACTGGATTTTCTT AATCGACAAGATCCTCTGGACACAGCAGTTCTGAGTTATCCCCAGATGCAGTGGAAAAGGCAGGGATGTCTTCAA CTCCTGAAATGAAAGATGGTTTACCCAGAACTCCATCAAGGAGAAGCAGGTCTGGGTCTTCTCCAGGACTTAGAG ATGGGTCTGGGACTCCCTCGAGGCACAGCCTGTCTGGGTCCTCTCCTGGAATGAAAGATATACCTAGAACGCCAT CTAGAGGGAGAAGCGAATGTGATTCTTCCCCAGAACCGAAAGCTTTGCCTCAGACTCCTAGGCCGAGGAGTCGTT CTCCATCATCCCCAGAGCTCAACAACAAGTGTCTTACCCCCCAGAGAAAAAGAAGCGGGTCAGAATCATCAGTTG ATCAGAAAACTGTGGCTCGGACTCCCCTGGGGCAGAGAAGTCGTTCGGGATCCTCTCAAGAACTTGATGTGAAAC CCAGTGCATCCCCTCAGGAAAGAAGTGAGTCAGACTCTTCTCCAGATTCTAAAGCCAAGACAAGAACCCCACTTC GGCAGAGGAGTCGGTCTGGATCATCTCCAGAGGTTGACAGCAAATCTCGACTATCCCCTCGGCGCAGTAGGTCTG GTTCCTCCCTGAAGTGAAAGATAAGCCAAGAGCACCCAGGGCACAGAGTGGTTCTGATTCCTCTCTGAAC CTAAAGCTCCAGCCCTCGGGCCCTTCCCAGACGAAGCAGATCAGGTTCATCAAGCAAAGGCAGAGGCCCTTCTC CTGAAGGAAGCAGCAGTACCGAGTCCTCCCTGAACATCCGCCCAAATCCAGAACTGCTCGCAGAGGTTCCAGGT CATCACCAGAGCCCAAGACCAAGTCTCGTACACCACCTCGACGTCGCAGCTCTCGATCATCTCCGGAGCTAACAA GGAAGGCCAGACTGTCCCGTAGAAGCCGCTCTGCCTCATCCTCACCAGAAACTCGCTCTAGAACTCCCCCAAGGC ACCGGAGAAGTCCCTCAGTGTCTTCCCCGGAGCCAGCCGAAAAATCGAGGTCTTCACGCCGACGGCGCTCAGCTT CATCTCCACGCACTAAGACAACCTCAAGGAGAGGCCGCTCTCCTTCGCCAAAGCCTCGTGGACTCCAGAGGTCCC GTTCCCGCTCAAGGAGAGAGAAAACAAGAACAACCCGACGTCGAGATAGGTCTGGATCTTCTCAGTCAACCTCTC CACCTGCCGGCAGGAAAGTTCCCGGACCTCCTCTCGACGCCGAAGAGGCCGCTCTCGGACACCCCCAACCAGTC GGAAGCGTTCTCGCTCACGCACATCACCAGCCCCGTGGAAACGCTCTAGATCTCGAGCCTCTCCAGCCACTCACC GGCGATCCAGGTCCAGAACCCCCCTGATAAGCCGACGTAGGTCCAGATCTCGAACTTCACCAGTCAGCCGGAGAC GGTCAAGGTCCAGGACTTCAGTGACTCGACGAAGATCCCGGTCAAGAGCATCCCCAGTGAGCAGAAGGCGATCCA GAACTCCACCAGTGACTCGCAGAAGGTCCAGATCCAGGACTCCACCAGTAACCAGGAGGCGATCTCGAAGCAGAA CTTCGCCTATCACTCGCAGAAGATCAAGATCCAGAACATCTCCGGTCACCCGAAGGAGATCTCGATCTCGCACAT CTCCAGTAACTCGAAGAAGGTCCCGCTCTCGAACCTCACCAGTGACACGCCGCCGCTCTAGGTCCCGGACACCTC CAGCACAGGATCAGCCGAGGTCTCCTGTGCCTTCTGCTTTTTCAGACCAATCCCGTTGTTTGATTGCCCAGACCA CCCCTGTAGCAGGGTCTCAGTCCCTTTCCTCTGGGGCAGTGGCAACGACCACGTCCTCTGCTGGTGATCACAATG GCATGCTCTCTGTCCCTGCCCCTGGGGTGCCCCACTCTGATGTGGGGGAGCCACCTGCCTCTACTGGGGCCCAGC AGCCTTCTGCATTAGCCGCCCTGCAGCCAGCAAAGGAGCGGCGGAGTTCCTCCTCGTCGTCGTCCTCTAGCT CCTCCTCCTCTTCATCATCGTCGTCGTCGTCCTCCTCCTCCTCTGGCTCCAGTTCTAGTGACTCAGAGGGCTCTA GCCTTCCTGTGCAACCTGAGGTGGCACTGAAGAGGGTCCCCAGCCCCACCCCAGCCCCAAAGGAGGCTGTTCGAG AGGGACGTCCTCCGGAGCCAACCCCAGCCAAACGGAAGAGGCGCTCTAGCAGTTCCAGTTCCAGCTCCTCTTT CCTCCTCGTCGTCTCCCCTTCCCCTGCTAAGCCTGGCCCTCAGGCCTTGCCCAAACCTGCAAGCCCCAAGA AGCCACCCCTGGCGAGCGGAGGTCCCGCAGCCCCCGGAAGCCAATAGACTCCCTCAGGGACTCTCGGTCCCTCA

4782/6881 FIGURE 4410C

GCCAGGCGGGGCCCGAGGCCCGACGCTGGCCGAGGTGCTGAGCCGCCGGTGCGTCCCCCAGGCTGGTGGCCGA GCTGCAGGGCGCCTGGACGCCTGCGCACAGCGACAATTGCAATTGGAGCAGAGCCTGCGCGTTTGCCGTCGGCT GCTGCATGCCTGGGAACCAACTGGGACCCGGGCTTTGAAGCCACCTCCAGGGCCAGAAACTAATGGAGAGGACCC CCTTCCAGCATGCACACCCAGTCCACAAGACCTCAAAGAGTTGGAGTTTCTGACCCAGGCACTGGAGAAGGCTGT ACGAGTTCGAAGAGGCATCACTAAGGCCGGAGAGAGAGACAAGGCCCCCAGCCTGAAATCTAGGTCCATTGTCAC CTCTTCTGGCACGACAGCCTCCGCCCCACCGCATTCCCCAGGCCAAGCTGGTGGCCATGCTTCAGACACGAGACC CACCAAGGGCCTCCGCCAGACCACGGTGCCTGCCAAGGGCCACCCTGAGCGCCGGCTGCTGTCAGTGGGGGATGG GACCCGTGTTGGG<u>ATG</u>GGAGCCCGAACCCCCAGGCCTGGGGCGGGCCTCAGGGACCAGCAAATGGCCCCATCCGC AGCAGCTTCCCAGAACTCGAGCCTGTGGGCCCAGCTCAGTTCCACACAGACCAGTGATTCCACGGATGCCGCCGC TGCCAAAACCCAGTTCCTCCAGAACATGCAGACAGCTTCAGGCGGGCCCCAGCCCAGGCTCAGTGCTGTGGAGGT $\verb|CCCCATGGACTGGATGCAGGAGTACCGCTGCCTGCTCACGCTGGAGGGGCCAGGCCATGGTGGGCCAGTGTCT| \\$ GCACAGGCTGCAGGAGCTGCGGTGCAGCGGTGGCGGAACAGCCACAAGACCATGTCCTGTGGGGAGGCCCCCCGG AGCCTCGCCGTCCTGTGGGGGTAGAGCCGGAGCCTGCATGGAGCCCCCAGCTGCTTGTCTACTCCAGCACCCAGGA GCTGCAGACCCTGGCGGCCCTCAAGCTGCGAGTGGCTGTGCTGGACCAGCAGATCCACTTGGAAAAGGTCCTGAT CAGCCTGCTCTGCGAGGGAGGAGCACGTGTCCTTACCATCCTGCGGGATGAACCTGCAGTCTGAGCCTTTCCCAT GCTGCCCTCGGCCTGTTCAGATGGGGATTGGGGGTGTCTTCCCTGGCACTGTGCTCGGGGACCCAGAGATGCCTG TGCTTCCCTGGGAAACCTGGTGAACTGGACCAGGTGGCCTCACTGGCTCTTCTCAGGACAACTAAGCCTGCTGGT CAGGGCTGGCTTCCAGAGGCTCCTGGACTCCAGAGGCCAGCGGGGAGCCTTTCCTGGCTCCCTCTGT TTTCTCTCACTGTAGACCAAAGAGCCGCTTGTGTGATATTAAAGCCACTTTAGAAAGC

WO 2004/030615 PCT/US2003/028547

4784/6881 FIGURE 4412

MGARTPRPGAGLRDQQMAPSAAPQAPEAFTLKEKGHLLRLPAAFRKAASQNSSLWAQLSSTQTSDSTDAAAAKTQ FLQNMQTASGGPQPRLSAVEVEAEAGRLRKACSLLRLRMREELSAAPMDWMQEYRCLLTLEGLQAMVGQCLHRLQ ELRAAVAEQPPRPCPVGRPPGASPSCGGRAEPAWSPQLLVYSSTQELQTLAALKLRVAVLDQQIHLEKVLMAELL PLVSAAQPQGPPWLALCRAVHSLLCEGGARVLTILRDEPAV

WO 2004/030615 PCT/US2003/028547

4785/6881 FIGURE 4413A

GCAGCGCGCCCAGGCGGGGTGCGAGTGGCGCAGTTGGAGCCCGTTGCGGCCCCTGAGGAAGCGAGGAGGCGTCG GCGTCGGCTGAGGCGGCGGACCGGCGAGGCGAGGCGAGCCCCAGGCCCGAGGACCTCGGGAGCTCGAGCAG GGGGCCATGTACAACGGGATCGGGCTGCCGACGCCCCGGGGCAGCGCACCAACGGCTACGTCCAGCGCAACCTG TCCCTGGTGCGGGGCCGCCGGGGTGAGCGGCCTGACTACAAGGGAGGAGGAACTGCGGCGCCTGGAGGCTGCC CTGGTGAAGCGGCCTAATCCTGACATCCTGGACCACGAGCGCAAGCGGCGCGTCGAGCTGCGATGCCTCGAGCTG GAGGAGATGATGGAAGAGCAGGGTACGAGGAACAGCAAATTCAGGAAAAAGTGGCGACCTTTCGACTCATGTTG CTGGAGAAGGATGTGAACCCTGGGGGCAAGGAGGACCCCAGGGCAGAGGCCAGCGGTCACGGAGACTCACCAG TTGGCAGAATTAAATGAGAAGAAGAATGAAAGACTCCGTGCTGCCTTTGGCATCAGTGATTCTTACGTAGATGGC AGCTCTTTTGATCCTCAGCGTCGTGCCCGAGAAGCTAAACAACCAGCTCCTGAGCCTCCCAAACCTTACAGCCTT GTTCGGGAGTCTAGCAGTTCTCGCTCACCAACCCCAAAGCAGAAGAAGAAGAAAAAGAAGAAAGATAGAGGACGC TCCAAGAAACGTAAGCATAGGTCTCCCACTCCAAAGAGCAAACGTAAATCTAAGGACAAAAAGCGAAAGCGGTCT CGAAGTACAACACCAGCCCCCAAGAGCCGCCGGGCCCACCGTTCAACTTCTGCTGACTCTGCTTCCTCCTCCGAT ACTTCCCGCAGTCGGTCTCGAAGTGCTGCAGCTAAAACTCATACAACTGCCTTGGCTGGGCGAAGTCCTTCCCCT GCTTCAGGGCGACGCGGGGGGGGGGGGGCCTTTCAGTGAACCAGGTACTACCAGCACACAACGGCCTAGTAGC CCGGAGACTGCTACGAAACAGCCTAGCAGCCCTTATGAAGACAAAGATAAAGACAAGAAGGAGAAATCTGCAACT CGACCTAGCCCCTCTCCGGAAAGGAGCAGCACAGGCCCAGAACCACCTGCTCCCACTCCGCTCCTTGCTGAGCGA CATGGCGGCTCCCCACAACCCCTTGCAACCACCCCCTTAAGCCAGGAGCCAGTGAACCCCCCATCTGAGGCCTCT CCAACTCGGGACCGTTCACCACCTAAGTCTCCCGAGAAACTTCCCCAGTCTTCTTCCTCAGAGAGCAGCCCACCA TCCCCTCAACCTACCAAAGTTTCTCGGCATGCCAGCTCTTCCCCAGAAAGTCCTAAACCTGCTCCAGCTCCAGGG TCCCACCGAGAGATTTCTTCTCCCCACATCTAAGAATCGCTCACATGGCCGAGCAAAACGGGATAAATCACAT TCTCATACCCCTCCCGTAGGATGGGGAGGTCCCGTAGCCCTGCCACCGCTAAGAGAGGGGGGATCTCGGTCTCGA ACCCCTACCAAGAGAGGTCATTCTCGATCCCGATCTCCCCAGTGGCGTAGGTCCAGGTCTGCACAGAGGTGGGGA AGATCTAGAAGCCCCCAGCGACGTGGCCGCTCTAGGTCTCCTCAGCGACCAGGCTGGTCTAGGAGCAGAAATACC CAGAGAAGAGGCAGGTCTAGGTCAGCAAGGCGAGGGAGGTCCCACTCTAGATCCCCAGCCACTAGGGGTAGATCT CGTTCTAGAACACCAGCCCGCCGGGGCAGGTCCCGCTCTAGAACACCTGCCAGGCGGAGATCACGATCCAGAACT CCCACCAGGCGTAGGTCTCGGTCTAGAACACCAGCCCGGAGGGGCAGGTCTCGGTCTAGAACACCTGCTAGGCGC CGAGGAAGATCCCGCAGTAGAAGCTTAGTTAGACGTGGAAGATCTCACTCTAGAACACCTCAAAGAAGAGGCAGA TCTGGCTCATCTTCAGAGCGGAAAAACAAATCCAGAACATCTCAAAGAAGAAGCAGGTCCAATTCAAGCCCAGAA TCTTTGAGGCGCAGCCTTTCAGGGTCTTCCCCATGCCCTAAACAAAAGTCACAGACACCCCAGGCGCAGTCGC TCTGGATCCTCCCAACCTAAAGCTAAATCTAGAACGCCACCCAGACGCAGTCGCTCCAGTTCTTCTCCGCCACCT AAACAGAAATCTAAGACACCATCAAGACAAAGTCATTCCAGTTCATCTCCTCATCCTAAAGTGAAATCTGGAACA CCACCGAGGCAAGGGTCCATAACAAGTCCCCAGGCCAATGAGCAATCTGTAACGCCACAGAGACGGAGCTGTTTT GAATCATCACCTGACCCTGAGTTGAAATCTAGGACCCCTTCTAGACATAGCTGCTCAGGGTCCTCCTCCTAGA GTGAAATCTAGCACACCTCCCAGACAGAGCCCATCTAGGTCATCATCTCCACAACCCAAAGTGAAGGCAATAATA TCACCAAGACAAGAAGCCATTCTGGCTCCTCTTCTCCAAGTCCTAGTAGGGTGACGTCGAGAACAACTCCACGG CGAAGCAGATCAGTATCTCCCTGCTCCAATGTGGAATCCAGATTGTTGCCAAGATACAGTCATTCTGGGTCCTCC TCACCAGATACCAAAGTGAAACCTGAAACACCGCCAAGACAAAGTCACTCAGGGTCTATTTCACCATACCCCAAA GTAAAGGCCCAAACTCCACCGGGGCCAAGTCTTTCTGGATCAAAGTCACCATGTCCCCAAGAGAAGTCTAAAGAC TCACTAGTTCAAAGTTGCCCTGGATCCCTCTCTCTCTGTGCAGGAGTAAAATCTAGCACCACCAGCGAGAGC TATTTTGGTGTCTCATCTCTGCAACTGAAAGGACAATCTCAAACTTCACCAGACCACAGATCTGATACTTCAAGT CCAGAAGTGAGACAGAGTCATTCAGAATCACCATCTCTGCAGAGCAAATCTCAAACATCACCTAAGGGAGGTCGG TCCAGGTCTTCATCTCCAGTCACTGAGCTGGCATCCAGATCTCCAATAAGACAAGATAGAGGTGAGTTCTCAGCG

4786/6881 FIGURE 4413B

AGTCCTATGTTGAAATCTGGAATGTCTCCTGAGCAGAGCAGGTTCCAGTCTGACTCTTCTTCATATCCTACAGTG GACTCGAATTCTCTCTTGGGGCAGAGTAGATTGGAGACTGCTGAATCAAAAGAGAAAATGGCCTTACCCCCTCAG GAGGATGCTACTGCATCACCTCCTAGACAGAAAGACAAATTTAGTCCCTTTCCAGTACAGGATAGGCCTGAGTCT TCACTGGTATTCAAAGACACACTTAGAACCCCGCCAAGGGAAAGAAGTGGTGCTGGGTCATCTCCAGAAACAAAA GAGCAAAATAGTGCATTGCCTACGTCAAGCCAAGATGAAGAGTTAATGGAGGTGGTAGAGAAGTCTGAAGAACCC GCAGGCCAAATCCTGTCTCATTTGTCTTCAGAACTTAAAGAAATGTCCACAAGTAACTTTGAATCATCTCCTGAA GTAGAAGAAGGCCTGCTGTGTCTTTGACTCTTGATCAGAGCCAGTCACAGGCTTCTTTGGAAGCAGTAGAAGTC CCTTCAATGGCCTCATCTTGGGGTGGGCCACATTTTTCTCCAGAACATAAAGAACTGTCTAACTCCCCACTCAGG GAGAACAGCTTTGGATCACCTTTAGAATTTAGAAACTCAGGCCCACTTGGTACAGAAATGAATACTGGATTTTCT TCTGAGGTTAAAGAAGATTTGAATGGACCGTTTCTTAATCAGCTGGAAACAGATCCATCTCTAGACATGAAAGAA CAATCGACAAGATCCTCTGGACACAGCAGTTCTGAGTTATCCCCAGATGCAGTGGAAAAGGCAGGGATGTCTTCA TCTCCTGAAATGAAAGATGGTTTACCCAGAACTCCATCAAGGAGAAGCAGGTCTGGGTCTTCTCCAGGACTTAGA GATGGGTCTGGGACTCCCTCGAGGCACAGCCTGTCTGGGTCCTCTCCTGGAATGAAAGATATACCTAGAACGCCA TCTAGAGGGAGAAGCGAATGTGATTCTTCCCCAGAACCGAAAGCTTTGCCTCAGACTCCTAGGCCGAGGAGTCGT GATCAGAAAACTGTGGCTCGGACTCCCCTGGGGCAGAGAAGTCGTTCGGGATCCTCTCAAGAACTTGATGTGAAA CCCAGTGCATCCCCTCAGGAAAGAAGTGAGTCAGACTCTTCTCCAGATTCTAAAGCCAAGACAAGAACCCCACTT CGGCAGAGGAGTCGGTCTGGATCATCTCCAGAGGTTGACAGCAAATCTCGACTATCCCCTCGGCGCAGTAGGTCT GGTTCCTCCCTGAAGTGAAAGATAAGCCAAGAGCAGCACCCAGGGCACAGAGTGGTTCTGATTCCTCTCTGAA CCTAAAGCTCCAGCCCCTCGGGCCCTTCCCAGACGAAGCAGATCAGGTTCATCAAGCAAAGGCAGAGGCCCTTCT CCTGAAGGAAGCAGCAGTACCGAGTCCTCCCTGAACATCCGCCCAAATCCAGAACTGCTCGCAGAGGTTCCAGG TCATCACCAGAGCCCAAGACCAAGTCTCGTACACCACCTCGACGTCGCAGCTCTCGATCATCTCCGGAGCTAACA AGGAAGGCCAGACTGTCCCGTAGAAGCCGCTCTGCCTCATCCTCACCAGAAACTCGCTCTAGAACTCCCCCAAGG CACCGGAGAAGTCCCTCAGTGTCTTCCCCGGAGCCAGCCGAAAAATCGAGGTCTTCACGCCGACGGCGCTCAGCT TCATCTCCACGCACTAAGACAACCTCAAGGAGAGGCCGCTCTCCTTCGCCAAAGCCTCGTGGACTCCAGAGGTCC CGTTCCCGCTCAAGGAGAGAAAACAAGAACAACCCGACGTCGAGATAGGTCTGGATCTTCTCAGTCAACCTCT CGGCGAAGACAGCGGAGCCGGTCAAGGTCGCGGGTTACTCGGCGGCGGAGGGGAGGCTCTGGTTATCACTCAAGG TCACCTGCCCGGCAGGAAAGTTCCCGGACCTCCTCTCGACGCCGAAGAGGCCGCTCTCGGACACCCCCAACCAGT CGGAAGCGTTCTCGCTCACGCACATCACCAGCCCCGTGGAAACGCTCTAGATCTCGAGCCTCTCCAGCCACTCAC CGGCGATCCAGGTCCAGAACCCCCCTGATAAGCCGACGTAGGTCCAGATCTCGAACTTCACCAGTCAGCCGGAGA CGGTCAAGGTCCAGGACTTCAGTGACTCGACGAAGATCCCGGTCAAGAGCATCCCCAGTGAGCAGAAGGCGATCC AGATCCAGAACGCCACCAGTAACCCGCCGTCGTTCAAGGTCTAGAACGCCAACAACACGCCGCCGCCCGTTCT AGAACTCCACCAGTGACTCGCAGAAGGTCCAGATCCAGGACTCCACCAGTAACCAGGAGGCGATCTCGAAGCAGA ACTTCGCCTATCACTCGCAGAAGATCAAGATCCAGAACATCTCCGGTCACCCGAAGGAGATCTCGATCTCGCACA TCTCCAGTAACTCGAAGAAGGTCCCGCTCTCGAACCTCACCAGTGACACGCCGCCGCTCTAGGTCCCGGACACCT CCAGCACAGGATCAGCCGAGGTCTCCTGTGCCTTCTGCTTTTTCAGACCAATCCCGTTGTTTGATTGCCCAGACC ACCCCTGTAGCAGGGTCTCAGTCCCTTTCCTCTGGGGCAGTGGCAACGACCACGTCCTCTGCTGGTGATCACAAT GGCATGCTCTCTGTCCCTGCCCCTGGGGTGCCCCACTCTGATGTGGGGGAGCCACCTGCCTCTACTGGGGCCCAG CAGCCTTCTGCATTAGCCGCCCTGCAGCCAGCAAAGGAGCGGGGGGGTTCCTCCTCGTCGTCGTCGTCCTCTAGC TCCTCCTCTTCTTCATCATCGTCGTCGTCCTCCTCCTCCTCTCTCGCTCCAGTTCTAGTGACTCAGAGGGCTCT AGCCTTCCTGTGCAACCTGAGGTGGCACTGAAGAGGGTCCCCAGCCCCAGCCCCAAAGGAGGCTGTTCGA GAGGGACGTCCTCCGGAGCCAACCCCAGCCAAACGGAAGAGGCGCTCTAGCAGTTCCAGTTCCAGCTCCTCTCT TCCTCCTCGTCGTCTTCCCCTTCCCCTGCTAAGCCTGGCCCTCAGGCCTTGCCCAAACCTGCAAGCCCCAAG AAGCCACCCCTGGCGAGCGGAGGTCCCGCAGCCCCCGGAAGCCAATAGACTCCCTCAGGGACTCTCGGTCCCTC AGCTACTCGCCTGTGGAGCGTCGCCGTCCCTCGCCCCAGCCCTCACCACGGGACCAGCAGCAGCAGCAGCAGTGAG WO 2004/030615 PCT/US2003/028547

4787/6881 FIGURE 4413C

GGCGGCCGTGCCGGGAGGAAAACCAATTCTGTGTCCTCGGAGGACCACAGCCCAGTTGGGCCCCAGGCGAAACCC AGCCTGGAGCTTGCAGGCAGGACGACTGTTCAGCACGCAGACCGCCGAGGACAAGGAGGAACCCCTGCACTCGAT TATCAGCAGCACAGAGAGCGTGCAGGGTTCCACTTCCAAACATGAGTTCCAGGCCGAGACAAAGAAGCTTTTGGA ${\tt CATTGTTGCCCGGTCCCTGTACTCAGAAAAAGAGGTGTTTATACGGGAGCTGATCTCCAATGCCAGCGATGCCTT}$ GGAAAAACTGCGTCACAAACTGGTGTCTGACGGCCAAGCACTGCCAGAAATGGAGATTCACTTGCAGACCAATGC CGAGAAAGGCACCATCACCATCCAGGATACTGGTATCGGGATGACACAGGAAGAGCTGGTGTCCAACCTGGGGAC GATTGCCAGATCGGGGTCAAAGGCCTTCCTGGATGCTCTGCAGAACCAGGCTGAGGCCAGCAGCAAGATCATCGG CCAGTTTGGAGTGGGTTTCTACTCAGCTTTCATGGTGGCTGACAGAGTGGAGGTCTATTCCCGCTCGGCAGCCCC GGGGAGCCTGGGTTACCAGTGGCTTTCAGATGGTTCTGGAGTGTTTGAAATCGCCGAAGCTTCGGGAGTTAGAAC CGGGACAAAAATCATCATCCACCTGAAATCCGACTGCAAGGAGTTTTCCAGCGAGGCCCGGGTGCGAGATGTGGT AACGAAGTACAGCAACTTCGTCAGCTTCCCCTTGTACTTGAATGGAAGGCGGATGAACACCTTGCAGGCCATCTG GATGATGGACCCCAAGGATGTCGGTGAGTGGCAACATGAGGAGTTCTACCGCTACGTCGCGCAGGCTCACGACAA GCCCCGCTACACCCTGCACTATAAGACGGACGCACCGCTCAACATCCGCAGCATCTTCTACGTGCCCGACATGAA ACCGTCCATGTTTGATGTGAGCCGGGAGCTGGGCTCCAGCGTTGCACTGTACAGCCGCAAAGTCCTCATCCAGAC CAAGGCCACGGACATCCTGCCCAAGTGGCTGCGCTTCATCCGAGGTGTGGTGGACAGTGAGGACATTCCCCTGAA CCTCAGCCGGGAGCTGCTGCAGGAGAGCGCACTCATCAGGAAACTCCGGGACGTTTTACAGCAGAGGCTGATCAA ATTCTTCATTGACCAGAGTAAAAAAGATGCTGAGAAGTATGCAAAGTTTTTTGAAGATTACGGCCTGTTCATGCG GGAGGGCATTGTGACCGCCACCGAGCAGGAGGTCAAGGAGGACATAGCAAAGCTGCTGCGCTACGAGTCCTCGGC GCTGCCCTCCGGGCAGCTAACCAGCCTCTCAGAATACGCCAGCCGCATGCGGGCCGGCACCCGCAACATCTACTA TCTCTTCTGCTTTGAGCAGTTTGATGAGCTCACCCTGCTGCACCTTCGTGAGTTTGACAAGAAGAAGCTGATCTC TGTGGAGACGGACATAGTCGTGGATCACTACAAGGAGGAGAAGTTTGAGGACAGGTCCCCAGCCGCCGAGTGCCT ATCAGAGAAGGAGGAGGAGCTCATGGCCTGGATGAGAAATGTGCTGGGGTCGCGTGTCACCAACGTGAAGGT GACCCTCCGACTGGACACCCACCCTGCCATGGTCACCGTGCTGGAGATGGGGGCTGCCCGCCACTTCCTGCGCAT GCAGCAGCTGGCCAAGACCCAGGAGGAGGCGCGCACAGCTCCTGCAGCCCACGCTGGAGATCAACCCCAGGCACGC GCTCATCAAGAAGCTGAATCAGCTGCGCGCAAGCGAGCCTGGCCTGGCTCAGCTGCTGGATCAGATATACGA GAACGCCATGATTGCTGCTGGACTTGTTGACGACCCTAGGGCCATGGTGGGCCGCTTGAATGAGCTGCTTGTCAA

MARELRALLLWGRRLRPLLRAPALAAVPGGKPILCPRRTTAQLGPRRNPAWSLQAGRLFSTQTAEDKEEPLHSII SSTESVQGSTSKHEFQAETKKLLDIVARSLYSEKEVFIRELISNASDALEKLRHKLVSDGQALPEMEIHLQTNAE KGTITIQDTGIGMTQEELVSNLGTIARSGSKAFLDALQNQAEASSKIIGQFGVGFYSAFMVADRVEVYSRSAAPG SLGYQWLSDGSGVFEIAEASGVRTGTKIIIHLKSDCKEFSSEARVRDVVTKYSNFVSFPLYLNGRRMNTLQAIWM MDPKDVGEWQHEEFYRYVAQAHDKPRYTLHYKTDAPLNIRSIFYVPDMKPSMFDVSRELGSSVALYSRKVLIQTK ATDILPKWLRFIRGVVDSEDIPLNLSRELLQESALIRKLRDVLQQRLIKFFIDQSKKDAEKYAKFFEDYGLFMRE GIVTATEQEVKEDIAKLLRYESSALPSGQLTSLSEYASRMRAGTRNIYYLCAPNRHLAEHSPYYEAMKKKDTEVL FCFEQFDELTLLHLREFDKKKLISVETDIVVDHYKEEKFEDRSPAAECLSEKETEELMAWMRNVLGSRVTNVKVT LRLDTHPAMVTVLEMGAARHFLRMQQLAKTQEERAQLLQPTLEINPRHALIKKLNQLRASEPGLAQLLVDQIYEN AMIAAGLVDDPRAMVGRLNELLVKALERH

CGGA<u>ATC</u>GAGGAGGTGCCTCACGACTGTCCAGGGGCCGACAGCGCCCAGGCGGCAGAGGGGCTTCATGTCAGGG ATGCCCCAACCAGCGGCTGTGCGCTTCTGGAGCGGGGCCCACTCCGGACACGGCTATAGAGGAAATCAAAGAGAA AATGAAGACTGTAAAACACAAAATCTTGGTATTGTCTGGGAAAGGCGGTGTTGGGAAAAGCACATTCAGCGCCCA $\verb|CCTTGCCCATGGCCTAGCAGAGGATGAAAACACACAGATTGCTCTTCTAGACATCGATATATGTGGGCCATCGAT|\\$ TCCCAAGATAATGGGATTGGAAGGAGAGCAGGTTCACCAGAGTGGCTCAGGCTGGTCTCCAGTGTACGTGGAAGA ${\tt CAACCTGGGGGTGATGTCAGTGGGGTCCTGATGATGCTGTTATCTGGAGGGGACCCAAGAA}$ AAACGGCATGATCAAGCAGTTCCTCCGAGATGTGGACTGGGGAGAGGTCGACTACCTCATTGTGGACACCCCACC ${\tt TGGGACGTCGGATGAACACCTCTCGGTCGTCCGGTACCTGGCCACACCACCACCATCGATGGAGCAGTGATCATCAC}$ CGGGGGCGCGGAGCTCATGTGCCAGGACTTGGAGGTCCCTCTCCTCGGCAGAGTGCCCCTGGATCCGCTCATAGG TAAGAATTGTGACAAAGGCCAGTCTTTTTCATTGACGCCCCAGATTCCCCAGCCACGTTAGCCTACAGAAGTAT AATTCAGAGAATCCAAGAGTTTTGTAATCTCCATCAGTCAAAAGAAGAAGACCTCATCAGTTCC**TGA**AACGAGAG GATGGGGTGGGTCACAGCAAAAGGACCAGATGCTGGTGTGGTCCGAAGCCACTTTCTCAGAGACACTTTAATCAT ${\tt TGAGTATTTGTACACTTTTCTTTAGAACATATATAAAGGGCATTCTCTACAAATGTGCCGTTTTAAGAATAAAAC}$ CCCCTCAAATCTC

MEEVPHDCPGADSAQAGRGASCQGCPNQRLCASGAGATPDTAIEEIKEKMKTVKHKILVLSGKGGVGKSTFSAHL
AHGLAEDENTQIALLDIDICGPSIPKIMGLEGEQVHQSGSGWSPVYVEDNLGVMSVGFLLSSPDDAVIWRGPKKN
GMIKQFLRDVDWGEVDYLIVDTPPGTSDEHLSVVRYLATAHIDGAVIITTPQELSLQDVRKEINFCRKVKLPIIG
VVENMSPFICPKCKKESQIFPPTTGGAELMCQDLEVPLLGRVPLDPLIGKNCDKGQSFFIDAPDSPATLAYRSII
QRIQEFCNLHQSKEENLISS

CGGTCCTTCTCAACAGGCCTGTGCCCCGCGGGGTCCGCCTCCTCTGGGACGCCTTCCTCCCGGCACAGAAGGCCT $\tt CCCCTCTCACCAGGGCCCTCGCCGGCTGGTCCGCCAGGCCCCGCCTTTTTTGCGGCCCCCATTGTGCTGCTGGA$ $\verb|CCCGACGAGCAGTGTTGACAGTGAACCCCACGTAGACGCCGGCCCCGGTACCGGGGGTTCAGGCAGTAGAGCAGGT| \\$ AGACGCCGAAAAAGCGCCCTGGCCTCGCCGCGACCCCCGCGGGACCCATCGGGCCTTGGGGTTCGGGAACCACAG CAAGCTCTCGGGGACTATCCGGAGGCAGCCTGCAGGAAGCCGTAGCGCCGGTACGTGCCCCTCTCCTGTCTGGAG GCGGGTGTAGAAGTCCGACCGCGAAGCCAGACTGCTGTCCAGTCGGCGAGCGCGTACCATTCAGCATCGGCTCC GCCCGAGTCCCACCTTCCTCAGGCTCTGATTGGCTGACACATGGCAAGCGCGAAAAGCCTGGACCGCTGGAAAGC CCGGCTGCTTGAGGGCGGAAGTACTGCGTTGACGTACGCCTTAGTAAGGGCGGAAGTGAGTTTTCCAGCGGAAGT GGCTCCTGTAAGGCAGCAAGGTAGCGTGGCCGGCGCCCGAGCTGGGGTTGTGTCCCTGCTGGGCTGCCGTTCCAG $\tt CTGGACTGCCGCC{\color{blue} {\bf ATG}} GAACTCAGCGCCGAATACCTCCGCGAGAAGCTGCAGCGGGACCTGGAGGCGGAGCATGT$ GGAGGTGGAGGACACGACCCTCAACCGTTGCTCCTGTAGCTTCCGAGTCCTGGTGGTGTCGGCCAAGTTCGAGGG GAAACCGCTGCTTCAGAGACACAGGCTGGTGAACGCGTGCCTAGCAGAAGAGCTCCCGCACATCCATGCCTTTGA ${\tt ACAGAAAACCCTGACCCCAGACCAGTGGGCACGTGAGCGACAGAAA\underline{\textbf{TGA}}{\tt GGGACTGGGATCTGCACAGCCATTAA}$ CTCCCTGCCTGCCTCCGTCCATTGTTTTA

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4793/6881 FIGURE 4419

 ${\tt MELSAEYLREKLQRDLEAEHVEVEDTTLNRCSCSFRVLVVSAKFEGKPLLQRHRLVNACLAEELPHIHAFEQKTL}\\ {\tt TPDQWARERQK}$

GGTAACTTCTTGATGTTGCCGTGGCATTTGTAAACTGTCATGGTGCTGGTAGGAGTGTAGCAGGGAGGATGATGG GAGGTCAGTCTTGTCTCTATTTTGGTTTTGGTGGGTTTTTGGCCAGCTCCTTCACTGCAACCTGTTTTATCAGCAA GGTCTTTATGACTGGTATTTTGTGCTGACCTTCTATGTCATCCTGTGACTTAGAATGCCTTAACCATCAGGGAAT GCAGCCCAGTAGTTTCAGCCTCATTTTTCCTGGCTCCTATTTAAGATGGAGTTGCTCTGGTTCACACACCTCTGA CATGATCATTGCCCACTGCGGCTTCCACCTCCCGGGTTCAAGAGATCCTCCTGCCTCACCCTCCCAAGGTGCTGG GGCTGGTCTCAAACTCCTGGGCTCAAGCAATCCTTCTGTCTCAGCCTCCCAAAGTACTGGGATTACAGGCATGTC CCACCATGCCCAGACTAATATTTACTTTTAATCAGACTAAGATAGGGTTACTACTTGAGTTGCTATGGCTCCAGC TGAAAGAAAGCCCGTGCAGTCATATCACGCGTAAACATTTGCTTTATGCTAAAAATATGGTGGACCTGGCATTAC AGCTATTACAAATCTCCTAAGATGTCTCGGGTAGTGTATTAGTTACTTTTCATACTGCTATGAAGAAATACTGGA AACTGGGTAATTTATAAAGAAAAAGAGGTTTAATGTACTCACAGTTCCACAAGGCTGGAGAGGCCTCAGAATCAT GGTGGAAGGCAAGGAGCAAAAAGGTATGTCTTCCATGGCAGCAGGCAAGAGAGCACGTGCAGGGAAACTGCCCTT TATAAAACCATCAGATTTAGTGAGATGTATTCACTATCACGAGAACAGTATGGGAAAAACCTGCCCCCATGATTC GATTACCTCCTACCGGGTCCCTCCCACGACACATGGGGATTATGGGAACTACAATTCAAGATGAAATTTGGGTGG GGACGCAGCCAAACCATATCGGGTAGCAACAACCTAGGGTCAGTTTTGCAGGTGGTAAAGCCATTTACCAAGATA GTTGTAGGTAAAGAAGGGCAGATTTATTAGAGAAATTGTGAAAATATGTTGCAGTGGGCAGCTCAGCAGAGAAGG GGCTACCTGCAAAGAGGCAAGGGCTGGAGGAAAGTTTTATAGGGTCCTGCTGAAGGGTGCTACGTGTGGAATGAG GTCATTGTGCCCGCAGGTTGTTTGTGATTAGCTGTTTCTAACAATTGTTCATACAATAATTGTTCATTATTGTTC GGAAACTTCATTCATATCTTCAACACAAATTGTAGGTAGCCTGTTTTTTAAAACATTTATTCAACAAATAT TTAGTCCAAGCCACTATTACTTATTACCTTCTCTACTATTGTATGGACTTTTAACTATCTCTGACACTATTCACT ATTCTTCCACATTCTCTATTATTTATACCTATGGTAAAATTTGCCAGTTTGACCATACAACTAATACTCACAGGG AATATATAGAGTCTAGAAGAAAATATACAGGTCCTTAAAGGCTGCCCTGCCAACAAAACCATAACGCAGGAACAA ACATCACAACTATGCCAAATAATCAATCCTACAATGTCCAAAATTTTACTTTAAAACTGGAATTTCCAGACTTCC TATTTATTTATTTATTTGAGACAGAGTTTCGCTCTTGTTGCAGTGAGCCAGGATCATGCCATTGCACTCCA

ATCTTGCTTTCCTTTAATCCGGCAGTGACCGTGTGTCAGAACAATCTTGAATCATGAAGCTACTAACCAGAGCCG GCTCTTTCTCGAGATTTTATTCCCTCAAAGTTGCCCCCAAAGTTAAAGCCACAGCTGCGCCTGCAGGAGCACCGC CACAACCTCAGGACCTTGAGTTTACCAAGTTACCAAATGGCTTGGTGATTGCTTCTTTGGAAAACTATTCTCCTG TATCAAGAATTGGTTTGTTCATTAAAGCAGGCAGTAGATATGAGGACTTCAGCAATTTAGGAACCACCCATTTGC TGCGTCTTACATCCAGTCTGACGACAAAAGGAGCTTCATCTTTCAAGATAACCCGTGGAATTGAAGCAGTTGGTG GCAAATTAAGTGTGACCGCAACAAGGGAAAACATGGCTTATACTGTGGAATGCCTGCGGGGTGATGTTGATATTC TAATGGAGTTCCTGCTCAATGTCACCACAGCACCAGAATTTCGTCGTTGGGAAGTAGCTGACCTTCAGCCTCAGC AGAATGCCTTGGCTAATCCCTTGTATTGTCCTGACTATAGGATTGGAAAAGTGACATCAGAGGAGTTACATTACT TCGTTCAGAACCATTTCACAAGTGCAAGAATGGCTTTGATTGGACTTGGTGTGAGTCATCCTGTTCTAAAGCAAG TTGCTGAACAGTTTCTCAACATGAGGGGTGGGCTTGGTTTATCTGGTGCAAAGGCCAACTACCGTGGAGGTGAAA TCCGAGAACAGAATGGAGACAGTCTTGTCCATGCTGCTTTTGTAGCAGAAAGTGCTGTCGCGGGAAGTGCAGAGG CAAATGCATTTAGTGTTCTTCAGCATGTCCTCGGTGCTGGGCCACATGTCAAGAGGGGCAGCAACACCACCAGCC ATCTGCACCAGGCTGTTGCCAAGGCAACTCAGCAGCCATTTGATGTTTCTGCATTTAATGCCAGTTACTCAGATT CTGGACTCTTTGGGATTTATACTATCTCCCAGGCCACAGCTGCTGGAGATGTTATCAAGGCTGCCTATAATCAAG TAAAAAGAATAGCTCAAGGAAACCTTTCCAACACAGATGTCCAAGCTGCCAAGAACAAGCTGAAAGCTGGATACC TAATGTCAGTGGAGTCTTCTGAGTGTTTCCTGGAAGAAGTCGGGTCCCAGGCTCTAGTTGCTGGTTCTTACATGC $\tt CTGGCCAGAAGTCAATGGCAGCAAGTGGAAATTTGGGACATACACCTTTTGTTGATGAGTTG{\color{red}{\textbf{TAA}}}{\textbf{TACTGATGCA}}$ CACATTACAGGAGAGAGCTGAACGTTCTCTCACCCAGAGCAGCAAACACATGAAAGTCAGAAGTCTCTAATATAT CATTTGTCTTTTTTCCAGTGAGGTAAAATAAGGCATAAATGCAGGTAATTATTCCCAGCTGACCTAAAGTCAATA AAACATTCTGTTT

MKLLTRAGSFSRFYSLKVAPKVKATAAPAGAPPQPQDLEFTKLPNGLVIASLENYSPVSRIGLFIKAGSRYEDFS
NLGTTHLLRLTSSLTTKGASSFKITRGIEAVGGKLSVTATRENMAYTVECLRGDVDILMEFLLNVTTAPEFRRWE
VADLQPQLKIDKAVAFQNPQTHVIENLHAAAYQNALANPLYCPDYRIGKVTSEELHYFVQNHFTSARMALIGLGV
SHPVLKQVAEQFLNMRGGLGLSGAKANYRGGEIREQNGDSLVHAAFVAESAVAGSAEANAFSVLQHVLGAGPHVK
RGSNTTSHLHQAVAKATQQPFDVSAFNASYSDSGLFGIYTISQATAAGDVIKAAYNQVKRIAQGNLSNTDVQAAK
NKLKAGYLMSVESSECFLEEVGSQALVAGSYMPPSTVLQQIDSVANADIINAAKKFVSGQKSMAASGNLGHTPFV
DEL

AGTCCTCTTCCGGGTGATGGCGGGGTGCCCCGGATGTAGCCCTGGCGCAAGCATCTCTTCTTTTTTCCACCTC GCCTTCCGCGGATTCCCAGCTTGAGAAACACCTCTTTGCCCCGTCATGCCAAAGAGGAAAGTGACCTTCCAAGGC $\tt GTGGGAGATGAGGATGAGATGAAATCATTGTCCCCAAGAAGAAGCTGGTGGACCCTGTGGCTGGGTCAGGG$ GGTCCTGGGAGCCGCTTTAAAGGCAAACACTCTTTGGATAGCGATGAGGAGGAGGATGATGATGATGGGGGGGTCC AGCAAATATGACATCTTGGCCTCAGAGGATGTAGAAGGTCAGGAGGCAGCCACACTCCCCAGCGAGGGGGGTGTT CGGATCACCCTTTAACCTGCAGGAGGAGGAGGAGGCCACTTTGATGCCGATGGCAACTACTTCCTGAAC CGGGATGCTCAGATCCGAGACAGCTGGCTGGACAACATTGACTGGGTGAAGATCCGGGAGCGGCCACCTGGCCAG CGCCAGGCCTCAGACTCGGAGGAGGAGGACAGCTTGGGCCAGACCTCAATGAGTGCCCAAGCCCTCTTGGAGGGA CTTTTGGAGCTCCTATTGCCTAGAGAGACAGTGGCTGGGGCACTGAGGCGTCTGGGGGCCCGAGGAGGAGGCAAA GGGAGAAAGGGGCCTGGGCAACCCAGTTCCCCTCAGCGCCTGGACCGGCTCTCCGGGTTGGCCGACCAGATGGTG GCCCGGGGCAACCTTGGTGTACCAGGAAACAAGGGAACGGTTGGCTATGCGTCTGAAGGGTTTGGGGTGTCAG ACCCTAGGACCCCACAATCCCACACCCCCACCCTCCCTGGACATGTTCGCTGAGGAGTTGGCGGAGGAGGAACTG GAGACCCCAACCCCTACCCAGAGAGGAGAAGCAGAGTCGCGGGGAGATGGTCTGGTGGATGTGTGGGAATAT GGCTACTTCCCGGACGGTGTTTATTGCCGGAAGCTGGACCCCCCTGGTGGTCAGTTCTACAACTCCAAACGCATT $\texttt{GACTTTGACCTCTACACC} \underline{\textbf{TGA}} \texttt{GCCTGCTGGGGGCCCAGTTTGGTGGGCCCTTCTTTCCTGGACTTTGTGGAGGAG}$ GCACCAAGTGTCTCAGGCAGCGAGGAAATTGGAGGCCATTTTTCAGTCAATTTCCCTTTCCCAATAAAAGCCTTT AGTTGTGTAAAAAAAAAAAAAAAA

MPKRKVTFQGVGDEEDEDEIIVPKKKLVDPVAGSGGPGSRFKGKHSLDSDEEEDDDDGGSSKYDILASEDVEGQE
AATLPSEGGVRITPFNLQEEMEEGHFDADGNYFLNRDAQIRDSWLDNIDWVKIRERPPGQRQASDSEEEDSLGQT
SMSAQALLEGLLELLLPRETVAGALRRLGARGGGKGRKGPGQPSSPQRLDRLSGLADQMVARGNLGVYQETRERL
AMRLKGLGCQTLGPHNPTPPPSLDMFAEELAEEELETPTPTQRGEAESRGDGLVDVMWEYKWENTGDAELYGPFT
SAQMQTWVSEGYFPDGVYCRKLDPPGGQFYNSKRIDFDLYT

AAACAGGCCATTGTTGCTGAGCGAGGATGAAGAAGATACCAAGAGAGTTGTCCGCAGTGCCAAGGACAAGAGGTT TGAGGAGCTGACCAACCTTATCCGGACCATCCGTAATGCCATGAAGATTCGTGATGTCACCAAGTGCCTGGAAGA GTTTGAGCTCCTGGGAAAAGCATATGGGAAGGCCAAAAGCATTGTGGACAAAGAAGGTGTCCCCCGGTTCTATAT GAACAATGCCAAGGCTCTGAGCACCTTGCGTCAGAAGATCCGAAAATACAACCGTGATTTCGAGTCCCATATCAC AAGCTACAAGCAGAACCCCGAGCAGTCTGCGGATGAAGATGCTGAGAAAAATGAGGAGGATTCAGAAGGCTCTTC AGATGAGGATGAGGACGGAGTCAGTGCTGCAACTTTCTTGAAGAAGAATCAGAAGCTCCTTCTGGGGA GAGTCGCAAGTTCCTCAAAAAGATGGATGATGAAGATGAGGACTCAGAAGATTCCGAAGATGATGAAGACTGGGA TAAAAAGGCACCCACCACAGATGAGGACAAGAAGGCAGCCGAGAAGAAACGGGAGGACAAAGCTAAGAAGAAGCA CGACAGGAAATCCAAGCGCCTGGATGAGGAGGAGGAGGACAATGAAGGCGGGGGAGTGGGAAAGGGTCCGGGGCGG AGTGCCGTTGGTTAAGGAGAAGCCAAAAATGTTTGCCAAGGGAACTGAGATCACCCATGCTGTTATCAAGAA ACTGAATGAGATCCTACAGGCACGAGGCAAGAAGGGAACTGATCGTGCTGCCAGATTGAGCTGCTACTGCT GGTTCAGATTGCAGCGGAAAACAACCTGGGAGAGGGCGTCATTGTCAAGATCAAGTTCAATATCATCGCCTCTCT CTATGACTACAACCCCAACCTGGCAACCTACATGAAGCCAGAGATGTGGGGGGAAGTGCCTGGACTGCATCAATGA CAACGCTGACCAGCCACTGCGTGTCCGTGGCTGCATCCTAACTCTGGTGGAACGAATGGATGAAGAATTTACCAA AATAATGCAAAATACTGACCCTCACTCCCAAGAGTACGTGGAGCACTTGAAGGATGAGGCCCAGGTGTGCCCAT CATCGAGCGTGTGCAGCGCTACCTGGAGGAGAAGGGCACTACCGAGGAGGTCTGCCGCATCTACCTGCTGCGCAT $\verb|CCTGCACCTACTACAAGTTTGATTACAAGGCCCATCAGCGACAGCTGACCCGCCTGAGGGCTCCTCAAAGGT|\\$ GAGCAAGACCAGGCAGAAAATGAGGGCGAGGACTCGGCTGTTGATGGAGAGACTGTGCAAGTACATCTACGCC AAGGACCGCACAGACCGGATCCGCACATGTGCCATCTTGCCACATCTACCACCATGC

GGCCCTGCGGTGTGACTCGCGGGCTCAGCTGGTTGGTATTTTTTGGGCCTCGTGCTTCGTGGTGGGAGACCCAGG TCGAGGTCCGGCCGTAGCACCTCCGCGCCGTCGCCATGTCGCGGTTTTTCACCACCGGTTCGGACAGCGAGTCCG AGTCGTCCTTGTCCGGGGAGGAGCTCGTCACCAAACCTGTCGGAGGCAACTATGGCAAACAGCCATTGTTGCTGA GCGAGGATGAAGAAGATACCAAGAGAGTTGTCCGCAGTGCCAAGGACAAGAGGTTTGAGGAGCTGACCAACCTTA TCCGGACCATCCGTAATGCCATGAAGATTCGTGATGTCACCAAGTGCCTGGAAGAGTTTGAGCTCCTGGGAAAAAG CATATGGGAAGGCCAAAAGCATTGTGGACAAAGAAGGTGTCCCCCGGTTCTATATCCGCATCCTGGCTGACCTAG AGGACTATCTTAATGAGCTTTGGGAAGATAAGGAAGGGGAAGAAGAAGATGAACAAGAACAATGCCAAGGCTCTGA. GCACCTTGCGTCAGAAGATCCGAAAATACAACCGTGATTTCGAGTCCCATATCACAAGCTACAAGCAGAACCCCG AGCAGTCTGCGGATGAAGATGCTGAGAAAAATGAGGAGGATTCAGAAGGCTCTTCAGATGAGGATGAGGATGAGG ACGGAGTCAGTGCTGCAACTTTCTTGAAGAAGAAATCAGAAGCTCCTTCTGGGGAGAGTCGCAAGTTCCTCAAAA AGATGGATGATGAAGATGAGGACTCAGAAGATTCCGAAGATGATGAAGACTGGGACACAGGTTCCACATCTTCCG ATGAGGACAAGAAGCCAGCCGAGAAGAAACGGGAGGACAAAGCTAAGAAGCACGACAGGAAATCCAAGCGCC AGCCAAAAATGTTTGCCAAGGGAACTGAGATCACCCATGCTGTTGTTATCAAGAAACTGAATGAGATCCTACAGG CACGAGGCAAGAAGGGAACTGATCGTGCTGCCCAGATTGAGCTGCTGCAACTGCTGGTTCAGATTGCAGCGGAAA TGGCAACCTACATGAAGCCAGAGATGTGGGGGAAGTGCCTGGACTGCATCAATGAGCTGATGGATATCCTGTTTG CAAATCCCAACATTTTTGTTGGAGAGAATATTCTGGAAGAGAGTGAGAACCTGCACAACGCTGACCAGCCACTGC GTGTCCGTGGCTGCATCCTAACTCTGGTGGAACGAATGGATGAAGAATTTACCAAAATAATGCAAAATACTGACC CTCACTCCCAAGAGTACGTGGAGCACTTGAAGGATGAGGCCCAGGTGTGCCATCATCGAGCGTGTGCAGCGCT ACCTGGAGGAGAAGGGCACTACCGAGGAGGTCTGCCGCATCTACCTGCTGCGCATCCTGCACACCTACTACAAGT TTGATTACAAGGCCCATCAGCGACAGCTGACCCCGCCTGAGGGCTCCTCAAAGTCTGAGCAAGACCAGGCAGAAA ATGAGGGCGAGGACTCGGCTGTTGATGGAGAGACTGTGCAAGTACATCTACGCCAAGGACCGCACAGACCGGA TCCGCACATGTGCCATCTCTGCCACATCTACCACCATGCTCTGCACTCGCGCTGGTACCAGGCCCGCGACCTCA TGCTCATGAGCCACTTGCAGGACAACATTCAGCATGCAGACCCGCCAGTGCAGATCCTTTACAACCGCACCATGG TGCAGCTGGGCATCTGTGCCTTCCGCCAAGGCCTGACCAAGGACGCACAACGCCCTGCTGGACATCCAGTCGA GTGGCCGAGCCAAGGAGCTTCTGGGCCAGGGCCTGCTGCTGCGCAGCCTGCAGGAGCGCAACCAGGAGCAGGAGA AGGTGGAGCGGCGCCGTCAGGTCCCCTTCCACCTGCACATCAACCTGGAGCTGCTGGAGTGTGTCTACCTGGTGT TCCACCACCAGCTGCGCGTGGGCGAGCGACAGCCCCTGCTGGGTCCCCTGAGTCCATGCGGGAACATGTGGTCG CTGCCTCCAAGGCCATGAAGATGGGTGACTGGAAGACCTGTCACAGTTTTATCATCAATGAGAAGATGAATGGGA AAGTGTGGGACCTTTTCCCCGAGGCTGACAAAGTCCGCACCATGCTGGTTAGGAAGATCCAGGAAGAGTCACTGA GGACCTACCTCTCACCTACAGCAGTGTCTATGACTCCATCAGCATGGAGACGCTGTCAGACATGTTTGAGCTGG ATCTGCCCACTGTGCACTCCATCATCAGCAAAATGATCATTAATGAGGAGCTGATGGCCTCCCTGGACCAGCCAA CACAGACAGTGGTGATGCACCGCACTGAGCCCACTGCCCAGCAGAACCTGGCTCTGCAGCTGGCCGAGAAGCTGG GCAGCCTGGTGGAGAACAACGAACGGGTGTTTGACCACAAGCAGGGCACCTACGGGGGCTACTTCCGAGACCAGA AGGACGGCTACCGCAAAAACGAGGGCTACATGCGCCGCGGTGGCTACCGCCAGCAGCAGTCTCAGACGGCCTACT GAGCTCTCCACTCTGTTTCCCGCCTGGGCCATCCAACCTTGAAGTCCTAAACCACACCTCAGTCACTAAAGGTCT GAGCTGCTACCACATGACAGACACAAGGCTCAGATGAAGAGGTGAATTGAACACGTTCCTGACCTC

FIGURE 4427A

AGAGGAGCTTCTTAATAACTTTGCCCAGCAAATAGGAGCCTGGAGATTCTGCCTGTACTTTCTCTCCAGCACTAG GAATGACTATGTAATGATGTACAGTTTAACAGTTTTTGAGAATCTGATCAATAAAATGTGGCTTGGGGTCCCATC TCAGGATAAGATGGAAATCCGTAGCTGTCTGCCCAAACTCCTTTTGGCTCACCATAAAACCTTACCTTACTTTAT CCGGAACAAGCTCTGCAAAGTTATTGTTGATATTGGACGTCAGGATTGGCCCCATGTTCTACCACGACTTTTTTAC TAACATTTTACAGTTGATCCAGTCCCCTGTGACAACCCCCCTTGGGCTGATCATGTTGAAGACAACTTCAGAAGA GCTGGCTTGTCCCCGTGAGGACCTCAGTGTGGCTCGGAAGGAGGAGTTGCGGAAGCTGCTACTGGACCAGGTGCA GACAGTGCTTGGGCTACTGACAGGTATCTTGGAGACTGTCTGGGACAAACACAGTGTTACTGCTGCCACTCCACC ACCATCCCCGACCTCAGGAGAAAGTGGTGACTTACTGAGTAACCTGTTGCAGAGTCCCAGTTCAGCCAAACTGTT GAATCAGCCAATTCCCATCCTTGATGTGGAGAGTGAGTATATCTGTTCCCTGGCTTTGGAGTGCCTGGCCCATCT CTTCAGTTGGATTCCTCTGTCTGCCAGCATCACCCCATCCCTCCTTACCACCATCTTCCACTTTGCACGATTTGG CTGTGACATCCGGGCCAGAAAGATGGCGTCAGTTAACGGCAGCAGCCAGAACTGTGTCTCGGGTCAGGAGCGCGG CCGGCTGGGGGTCCTGGCCATGTCCTGCATCAATGAACTCATGTCCAAGAACTGTGTGCCTATGGAATTTGAGGA GTATTTACTGCGTATGTTCCAGCAGACTTTCTACCTCCTGCAGAAAATCACCAAGGATAACAATGCCCACACAGT GAAGAGCAGGCTAGAAGAGCTCGATGAGAGCTATATCGAGAAGTTTACTGACTTTCTTCGGCTCTTTGTGAGTGT TCACCTAAGAAGAATCGAGTCTTACTCCCAGTTCCCTGTGGTGGAGTTTTTGACACTTTTGTTCAAGTACACATT TCATCAGCCTACTCATGAAGGTTACTTCTCTTGTTTGGATATCTGGACGCTGTTTTTGGACTATCTGACAAGTAA AATTAAAAGTCGTCTTGGAGACAAGGAAGCAGTTCTCAACAGGTACGAAGATGCCCTGGTGCTCCTGCTCACAGA GGTGTTGAATCGAATCCAGTTCAGATACAACCAAGCCCAGCTGGAGGAGTTGGATGATGAGACTCTGGATGACGA TCAGCAGACGGAGTGGCAGCGGTACTTACGGCAGAGCTTGGAGGTGGTGGCCAAAGTGATGGAGCTCCTGCCCAC GCACGCCTTCTCCACACTGTTCCCTGTTCTTCAGGACAATTTAGAAGTTTATTTGGGATTACAACAGTTTATAGT CACTTCAGGGTCAGGACACAGGTTGAACATCACGGCGGAGAACGACTGCCGGCGGCTGCACTGCTCCCTGAGAGA CTTGAGCTCCCTGCTGCAGGCCGTGGGCCGCCTGGCCGAGTACTTTATCGGGGATGTGTTTGCTGCACGGTTCAA TGATGCCCTCACAGTCGTGGAAAGGTTGGTCAAAGTCACTCTGTACGGATCTCAGATAAAATTGTACAACATTGA AACTGCTGTGCCATCAGTATTGAAACCTGACCTCATTGATGTGCATGCTCAGTCCCTGGCTGCGCTGCAGGCTTA CTCTCACTGGTTAGCACAGTATTGCAGTGAAGTTCACCGGCAGAACACGCAGCAGTTCGTGACACTCATCTCTAC TACCATGGATGCAATCACACCTCTAATCAGCACCAAGGTCCAAGACAAGCTGCTGCTATCTGCGTGCCACTTACT GGTCTCACTGGCCACCACCGTGCGGCCCGTCTTTCTGATCAGCATCCCTGCAGTGCAGAAAGTATTCAACAGAAT CACTGATGCCTCTGCCCTGCGACTTGTCGATAAGGCCCAGGTGTTGGTGTGCCGAGCCCTCTCTAACATCTTGCT GCTTCCGTGGCCAAACCTTCCAGAGAATGAGCAGCAGTGGCCCGTGCGCTCCATCAACCACGCCAGCCTCATCTC TGCACTCTCCCGGGACTATCGCAACCTGAAGCCCAGTGCTGTTGCCCCACAGAGAAAGATGCCACTGGATGACAC CAAACTGATTATCCACCAGACACTCAGCGTCTTAGAAGATATTGTGGAGAATATCTCGGGGGGAGTCCACCAAGTC TCGACAGATTTGCTACCAGTCGCTGCAGGAATCTGTTCAGGTCTCCCTGGCCCTCTTTCCAGCTTTTATCCATCA GTCAGATGTGACTGATGAGATGCTGAGCTTCTTCCTCACTCTGTTTCGAGGCCTTAGAGTACAGATGGGTGTGCC TTTCACTGAGCAAATCATACAGACTTTCCTCAACATGTTTACCAGAGAGCAGTTAGCCGAGAGCATCCTCCACGA GGGCAGCACAGGCTGCCGGGTGGTGGAGAAGTTTCTGAAGATCCTGCAGGTGGTGGTCCAGGAGCCAGGCCAGGT GTTCAAGCCCTTCCTCCCCAGCATCATCGCCCTGTGCATGGAGCAAGTGTATCCCATCATTGCCGAGCGTCCCTC CCCTGATGTGAAGGCCGAGCTGTTTGAGCTCCTTTTCCGGACGCTCCATCACAACTGGAGGTACTTCTTCAAGTC CACCGTGCTGGCCAGTGTCCAGAGGGGGATCGCTGAGGAGCAGATGGAGAATGAGCCCCAGTTCAGTGCCATCAT GCAGGCTTTCGGACAGTCCTTTCTCCAGCCCGACATCCACCTTTTTAAACAAAATCTCTTCTACTTGGAGACTCT CAACACCAAGCAGAAGCTGTACCACAAGAAGATCTTCCGGACTGCCATGCTGTTCCAGTTTGTGAACGTGCTGCT CCAGGTCCTGGTCCACAAGTCCCATGATCTTCTGCAGGAGGAGATTGGCATCGCCATCTACAACATGGCCTCAGT CGACTTTGATGGCTTCTTTGCCGCCTTCCTCCCAGAGTTCCTGACCAGCTGTGATGGTGTGGATGCCAACCAGAA AAGTGTGCTGGGGCGGAATTTCAAGATGGATCGGGACCTGCCCTCATTCACCCAGAATGTGCACAGGCTGGTCAA CGACCTGCGCTACTACAGACTCTGCAACGACAGCCTGCCCCTGGCACTGTGAAGCTC<u>TAG</u>GCCTGCTACTGCCT GGGGACACGGACTTCTGCTGCTGCCACCTGCGCCAGCCCTACCTTCCACCACAGATGTCTCCCAGATGGGCCTTG AGCAGAGCTGGCTTCTGGGTCCACCTGAGCACTGGACGGTGCTCCCAGGGCGTTGGAGCAGGCGGAGGGGTGTGT GGCCAGGTACTAGGAGGCACCAGGAAATCCCGCGGGGTGGCCCATGCAGACCAGGCGCACGTGGCTCATGGGGCA

4802/6881 FIGURE 4427B

GAATTGCCAAGGACAGCTCACGACAGTGCCACCTTCTCACCATTCCAGCCAAGGAGAGATGTGACGTTGGAACTG CTCTGGCACTTCTGTCAAGCCTCCCCCGCCCCAATTGCCTTGAGATCTCTGCTCTTTTGTCAGAGATTTGCAAAGA CTCACGTTTTTGTTGTTTTCTCATCATTCCATTGTGATACTAAGAAACTAAGAAGCTTAATGAAAAGAAATAAAA TGCCTATGTTGTTGTTCTAG

MMYSLTVFENLINKMWLGVPSQDKMEIRSCLPKLLLAHHKTLPYFIRNKLCKVIVDIGRQDWPMFYHDFFTNILQ
LIQSPVTTPLGLIMLKTTSEELACPREDLSVARKEELRKLLLDQVQTVLGLLTGILETVWDKHSVTAATPPPSPT
SGESGDLLSNLLQSPSSAKLLNQPIPILDVESEYICSLALECLAHLFSWIPLSASITPSLLTTIFHFARFGCDIR
ARKMASVNGSSQNCVSGQERGRLGVLAMSCINELMSKNCVPMEFEEYLLRMFQQTFYLLQKITKDNNAHTVKSRL
EELDESYIEKFTDFLRLFVSVHLRRIESYSQFPVVEFLTLLFKYTFHQPTHEGYFSCLDIWTLFLDYLTSKIKSR
LGDKEAVLNRYEDALVLLLTEVLNRIQFRYNQAQLEELDDETLDDDQQTEWQRYLRQSLEVVAKVMELLPTHAFS
TLFPVLQDNLEVYLGLQQFIVTSGSGHRLNITAENDCRRLHCSLRDLSSLLQAVGRLAEYFIGDVFAARFNDALT
VVERLVKVTLYGSQIKLYNIETAVPSVLKPDLIDVHAQSLAALQAYSHWLAQYCSEVHRQNTQQFVTLISTTMDA
ITPLISTKVQDKLLLSACHLLVSLATTVRPVFLISIPAVQKVFNRITDASALRLVDKAQVLVCRALSNILLLPWP
NLPENEQQWPVRSINHASLISALSRDYRNLKPSAVAPQRKMPLDDTKLIIHQTLSVLEDIVENISGESTKSRQIC
YQSLQESVQVSLALFPAFIHQSDVTDEMLSFFLTLFRGLRVQMGVPFTEQIIQTFLNMFTREQLAESILHEGSTG
CRVVEKFLKILQVVVQEPGQVFKPFLPSIIALCMEQVYPIIAERPSPDVKAELFELLFRTLHHNWRYFFKSTVLA
SVQRGIAEEQMENEPQFSAIMQAFGQSFLQPDIHLFKQNLFYLETLNTKQKLYHKKIFRTAMLFQFVNVLLQVLV
HKSHDLLQEEIGIAIYNMASVDFDGFFAAFLPEFLTSCDGVDANQKSVLGRNFKMDRDLPSFTQNVHRLVNDLRY

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4804/6881 FIGURE 4429

TCTCTCTCGGCGTTTCCGCTGTCAGGGCCTGCGGTGTGACTCGCGGGCTCAGCTGGTCCGGCCGTAGCACCTCCG CGCCGTCGCCATGTCGCGGTTTTTCACCACCGGTTCGGACAGCGAGTCCGAGTCGTCCTTGTCCGGGGAGGAGCT CGTCACCAAACCTGTCGGAGGCAACTATGGCAAACAGCCATTGTTGCTGAGCGAGGATGAAGAAGATACCAAGAG AGTTGTCCGCAGTGCCAAGGACAAGAGGTTTGAGGAGCTGACCAACCTTATCCGGACCATCCGTAATGCCATGAA GATTCGTGATGTCACCAAGTGCCTGGAAGAGTTTGAGCTCCTGGGAAAAGCATATGGGAAGGCCAAAAGCATTGT GGACAAAGAAGGTGTCCCCCGGTTCTATATCCGCATCCTGGCTGACCTAGAGGACTATCTTAATGAGCTTTGGGA AGATAAGGAAGGGAAGAAGAAGAACAAGAACAATGCCAAGGCTCTGAGCACCTTGCGTCAGAAGATCCGAAA ATACAACCGTGATTTCGAGTCCCATATCACAAGCTACAAGCAGAACCCCGAGCAGTCTGCGGATGAAGATGCTGA GAAAAATGAGGAGGATTCAGAAGGCTCTTCAGATGAGGATGAGGATGAGGACGGAGTCAGTGCTGCAACTTTCTT AGAAGATTCCGAAGATGATGAAGACTGGGACACAGGTTCCACATCTTCCGATTCCGACTCAGAGGAGGAAGAAGG GAAACGGGAGGACAAAGCTAAGAAGAAGCACGACAGGAAATCCAAGCGCCTGGATGAGGAGGAGGAGGACAATGA AGGCGGGGAGTGGGAAAGGGTCCGGGGGGGGGGGGGGTGCCGTTGGTTAAGGAGAAGCCAAAAATGTTTGCCAAGGGAAC TGAGATCACCCATGCTGTTGTTATCAAGAAACTGAATGAGATCCTACAGGCACGAGGCAAGAAGGGAACTGATCG TGCTGCCCAGATTGAGCTGCTGCAACTGCTGGTTCAGATTGCAGCGGAAAACAACCTGGGAGAGGGCGTCATTGT CAAGATCAAGTTCAATATCATCGCCTCTCTATGACTACAACCCCAACCTGGCAACCTACATGAAGCCAGAGAT GTGGGGGAAGTGCCTGGACTGCATCAATGAGCTGATGGATATCCTGTTTGCAAAATCCCAACATTTTTGTTGGAGA GAATATTCTGGAAGAGTGAGAACCTGCACAACGCTGACCAGCCACTGCGTGTCCGTGGCTGCATCCTAACTCT GGTGGAACGAATGGATGAAGAATTACCAAAATAATGCAAAATACTGACCCTCACTCCCAAGAGTACGTGGAGCA CTTGAAGGATGAGGCCCAGGTGTGCCATCATCGAGCGTGTGCAGCGCTACCTGGAGGAGAAGGGCACTACCGA GGAGGTCTGCCGCATCTACCTGCTGCGCATCCTGCACCCTACTACAAGTTTGATTACAAGGCCCATCAGCGACA GCTGACCCCGCCTGAGGGCTCCTCAAAGTCTGAGCAAGACCAGGCAGAAAATGAGGGCGAGGACTCGGCTGTGTT GATGGAGAGCTGTGCAAGTACATCTACGCCAAGGACCGCACAGACCGGATCCGCACATGTGCCATCCTCTGCCA CATCTACCACCATGCTCTGCACTCGCGCTGGTACCAGGCCCGCGACCTCATGCTCATGAGCCACTTGCAGGACAA CATTCAGCATGCAGACCCGCCAGTGCAGATCCTTTACAACCGCACCATGGTGCAGCTGGGCATCTGTGCCTTCCG CCAAGGCCTGACCAAGGACGCACAACGCCCTGCTGGACATCCAGTCGAGTGGCCGAGCCAAGGAGCTTCTGGG CCAGGGCCTGCTGCGCAGCCTGCAGGAGCGCAACCAGGAGCAGGAGAAGGTGGAGCGGCGCCGTCAGGTCCC CTTCCACCTGCACATCAACCTGGAGCTGCTGGAGTGTCTACCTGGTGTCTGCCATGCTCCTGGAGATCCCCTA GCGACAGCCCCTGCTGGGTCCCCTGAGTCCATGCGGGAACATGTGGTCGCTGCCTCCAAGGCCATGAAGATGGG TGACTGGAAGACCTGTCACAGTTTTATCATCAATGAGAAGATGAATGGGAAAGTGTGGGACCTTTTCCCCGAGGC TGTCTATGACTCCATCAGCATGGAGACGCTGTCAGACATGTTTGAGCTGGATCTGCCCCACTGTGCACTCCATCAT GGTGTTTGACCACAAGCAGGGCACCTACGGGGGCTACTTCCGAGACCAGAAGGACGGCTACCGCAAAAACGAGGG CTACATGCGCCGCGGTGGCTACCGCCAGCAGCAGTCTCAGACGGCCTACTGAGCTCTCCACTCTGTTTCCCGCCT GGGCCATCCAACCTTGAAGTCCTAAACCACACCTCAGTCACTAAAGGTCTGTTTAAAGTTGTTCTGGTTGATTGC AGGCTCAGATGAAGAGGTGAATTGAAC

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FIGURE 4430A

ATGGACCAAGGCCCTTGGCGGTGCGTTGCGCATGCGCCCCGGGCGCCGACTGAAGTAGCAATGGACGCGCTG GAGTCGTTGTTGGACGAAGTCGCTCTGGAGGGGCTCGATGGCCTGTGTCTGCCAGCGCTGTGGAGCCGGCTGGAG ACGCGAGTGCCGCCCTTCCCGCTGCCTTTGGAACCCTGCACGCAGGAGTTTCTCTGGCGGGCCCTCGCCACGCAC CCGGGCATCAGCTTCTATGAGGAGCCTCGGGAGCGACCCGACCTACAGCTCCAGGACCGGTATGAAGAAATTGAT TTGGAAACTGGAATTTTGGAGTCTAGGAGGGACCCGGTGGCTTTGGAGGATGTCTACCCCATTCATATGATCTTA GAGAATAAGGATGGCATCCAGGGCTCATGCCGCTACTTTAAGGAGAGGAAAAACATTACCAATGACATCAGAACC AAGTCCTTGCAGCCTCGCTGTACAATGGTGGAAGCCTTTGACAGGTGGGGGAAGAAACTGATCATCGTTGCCTCC CAĠGCCATGCGGTACAGGGCCTTGATAGGCCAGGAGGGGGGATCCCGACCTGAAGCTGCCCGACTTCTCCTACTGC ATCCTGGAACGGCTAGGCCGGTCCAGGTGGCAAGGGGAGCTCCAGCGAGACCTTCACACCACTGCTTTCAAGGTT GATGCTGGGAAGCTGCACTATCACAGAAAAATTTTGAACAAAAACGGGCTGATTACAATGCAGTCCCATGTGATC CGATTACCCACTGGAGCCCAGCAACACTCAATCCTCCTCCTACTGAACCGGTTTCATGTGGACAGGAGGAGCAAA TACGACATCCTCATGGAGAAGCTTTCGGTCATGCTGAGCACACGGACTAACCACATAGAGACGCTGGGAAAGCTG AGGGAAGAGCTGGGGCTGTGCGAAAGGACGTTTAAGCGTCTGTACCAGTATATGCTGAACGCCGGGCTAGCCAAG GTTCGGTGCCTCAAGCTGCTGAAGGAATTTAAACGGAATGACCATGATGACGAGGACGAGGAGGACGAGGTCATCTCC AAGACAGTGCCTCCAGTGGACATTGTGTTCGAGCGGGATATGCTCACACAGACCTACGACCTCATTGAGCGCAGA GGCACGAAAGGAATTTCCCAAGCTGAAATCCGAGTGGCTATGAATGTGGGAAAACTAGAAGCAAGAATGCTGTGC CGACTTCTTCAAAGATTCAAAGTTGTCAAGGGATTCATGGAAGACGAAGGTCGGCAGCGAACCACCAAGTACATT ACCGTGAGCCTGGCGTCTATGCAGGAGGAGTCGCTTCTGCCTGAAGGCGAGGACACCTTCCTCTGAGTCGGAC AGTGAGGAGGAGGAGCAGCAGCAGCGAGAGGCCAGAGGGTCCCAGAAAGACACAAGAGCCTCTGCAAACCTC GATACCAGCAGCGTCTCAGAACCCAACGTGTCCTTTGTCTCCCACTGTGCGGACAGCAACAGTGGTGACATAGCT GTGATCGAGGAGGTCCGGATGGAAAACCCAAAGGAGAGTAGCAGTTCCCTGAAGACTGGGAGGCACAGCTCAGGC CAAGACAAACCACACGAAACTTACCGACTGCTGAAACGCAGGAATCTGATCATAGAAGCTGTCACCAATCTTCGC TTAATCGAGAGTTTATTCACGATTCAGAAGATGATCATGGATCAGGAGAAGCAGGAAGGCGTGTCCACCAAGTGC TGCAAGAAGTCCATTGTCCGCTTGGTGCGGAACCTGTCTGAGGAAGGTCTCTTGCGATTGTATCGGACCACTGTC ATTCAAGATGGCATCAAGAAGAAGGTGGATCTGGTGGTGCACCCGTCCATGGACCAGAACGACCCTCTAGTGAGA AGTGCCATCGAGCAGGTCCGCTTCCGGATCTCCAATTCAAGCACAGCCAACAGGGTTAAAACTTCCCAGCCTCCA GTGCCCCAAGGGGAGGCAGAAGAAGACAGTCAAGGAAAAGAGGGCCCCAAGTGGATCAGGGGACTCTCAGCTGAGT GCTTCCTCTAGATCAGAAAGTGGACGGATGAAAAAAAGTGATAATAAAATGGGCATAACCCCGCTTAGAAATTAT CACCCCATTGTAGTTCCCGGACTGGGGCGTTCTCTAGGATTTCTGCCCAAAATGCCTCGCCTGCGGGTGGTCCAC ATGTTTCTGTGGTACCTCATCTACGGGCACCCTGCCAGCAACACCGTGGAGAAGCCAAGCTTCATCAGTGAACGG AGAACGATAAAGCAGGAGTCAGGCAGGGCAGGCGTCCGGCCGTCCTCTGGAAGTGCCTGGGAGGCCTGCTCT GAAGCCCCATCTAAAGGCAGCCAAGATGGTGTCACCTGGGAGGCTGAAGTGGAGCTTGCCACGGAGACAGTGTAT GTCGACGATGCCTCGTGGATGCGCTACATCCCCCAATCCCAGTCCACAGGGACTTCGGCTTTGGCTGGGCTCTC GTCAGCGACATCCTCCTCTCCCTCTCCATCTTCATCCAGATTGTGCAAGTCAGCTACAAGGTGGACAAC CTGGAGGAATTTCTGAACGACCCGCTGAAGAAGCACACGCTGATCCGCTTTCTCCCCAGGCCCATTCGGCAGCAG CTTCTGTACAAGAGGCGTTACATTTTTCGGTGGTGGAGAACCTTCAGAGGCTGTGCTACATGGGGCTGCTACAG TTTGGTCCCACGGAAAAGTTTCAGGATAAAGATCAGGTCTTTATCTTCTTGAAGAAGAATGCAGTCATTGTTGAC ACTACCATCTGCGACCCACATTACAACCTGGCCCGCAGCAGCCGGCCCTTCGAGAGGCGCCTCTATGTCCTGAAC TCAATGCAGGATGTGGAAAACTACTGGTTTGACCTGCAGTGCGTCTGCCTCAACACCCCCACTAGGCGTGGTGCGC AGCGCCATGGACAAGCACAACCTGGAGCGCAAGTGCGCCATGCTGGAGTACACCACTGGAAGCCGTGAGGTGGTG GATGAAGGCTTGATCCCTGGAGATGGGCTGGGTGCCGCAGGGCTCGATTCCAGCTTCTACGGACACCTCAAGCGC AACTGGATCTGGACCAGCTACATCATCAACCAGGCCAAAAAGGAGAACACTGCCGCAGAGAATGGACTCACAGTG AGGCTCCAGACATTTCTGTCCAAGCGCCCAATGCCCCTCAGTGCCAGAGGCAACAGCAGGTTGAATATTTGGGGG

4806/6881 FIGURE 4430B

GAAGCAAGAGTAGGCTCCGAGCTCTGTGCTGGCTGGGAAGAGCAGTTTGAGGTGGACCGAGAGCCCTCGCTGGAC CGAAACCGGAGAGTGAGGGGTGGGAAAAGCCAGAAGCGGAAGCGGCTGAAGAAGGACCCTGGGAAGAAGATCAAG AGAAAGAAGAAGGAGAGTTCCCAGGAGAAAAAAGCAAAAGGCTGCGCTACCATGATGAAGCCGACCAGAGTGCC CTGCAGCGGATGACGCGGCTTCGTGTCACCTGGTCTATGCAGGAGGATGGGCTGCTTGTGCTGTGCCGCATTGCC AGCAATGTCCTCAACACCAAGGTGAAGGGCCCATTTGTCACCTGGCAGGTGGTACGGGACATTTTGCATGCCACG TTTGAAGAGTCTTTGGATAAAACATCTCATTCCGTTGGACGAAGAGCTCGCTACATAGTCAAAAAACCCACAGGCC TATCTCAACTATAAAGTGTGCCTGGCCGAGGTGTACCAGGATAAAGCACTTGTTGGAGATTCATGAATCGAAGA GGTGACTATGATGACCCAAAGGTTTGTGCCAACGAGTTTAAAGAATTTGTGGAGAAGCTTAAAGAAAAGTTCAGT TCAGCCCTAAGGAATTCTAACCTTGAAATCCCAGACACACTCCAGGAGCTGTTCGCCAGGTACCGAGTTTTGGCA ATTGGGGATGAAAAAGATCAAACCAGGAAAGAGGATGAACTTAACAGCGTGGATGACATCCACTTTCTGGTGCTT CAGAACCTGATCCAGAGCACGCTGGCCCTCTCAGACAGTCAGATGAAGTCCTACCAGTCATTCCAGACTTTCCGC CTCTATCGGGAGTACAAGGACCACGTTCTTGTGAAGGCCTTCATGGAGTGCCAGAAGAGGAGCTTGGTCAACCGG CGCCGGGTCAACCACGCTGGGCCCCAAGAAGAACCGGGCCCTCCCCTTCGTGCCAATGTCCTACCAGCTATCC CAGACCTACTACAGGATTTTTACGTGGCGATTTCCAAGCACCATCTGCACGGAGTCATTCCAGTTTTTGGACAGA ATGCGGGCTGCCGGCAAGTTGGACCAGCCTGATCGTTTCTCTTTCAAAGACCAGGATAATAACGAGCCCACAAAC GACATGGTGGCCTTTTCACTGGACGGCCCTGGAGGAAATTGTGTGGCCGTCCTGACCCTCTTCTCTCTGGGCCTC ATTTCTGTGGATGTCAGGATCCCGGAGCAGATCATCGTGGTAGACAGCTCAATGGTGGAGAATGAGGTCATCAAA AGCTTGGGGAAGGACGCCAGCCTGGAGGATGACGAGGATGAAGAGGATGACTTGGACGAAGGTGTAGGGGGCAAG CGCCGGAGCATGGAGGTGAAACCTGCGCAAGCCTCCCACACCAACTACCTGCTGATGAGGGGCTACTACTCCCCC GGCATCGTCAGCACCCGCAACCTCAACCCCAACGACAGCATTGTGGTCAACTCCTGCCAGATGAAGTTCCAGCTC CGCTGCACCCCTGTGCCCGCCCGGCTCAGGCCCGCTGCCGCTCCTCTGGAAGAGCTAACAATGGGAACCTCCTGC CTCCCTGATACGTTCACCAAGCTGATAAACCCCCAGGAAAACACCTGCAGCTTGGAGGAGTTTGTCCTCCAGCTG GAGCTGTCTGGGTATAGTCCCGAAGACCTGACTGCTGCCTTGGAAGTCTTGGAAGCCATTATAGCCACGGGTTGT TTTGGGATTGACAAGGAGGAGCTGCGCAGACGGTTCTCGGCCTTGGAGAAGGCAGGTGGTGGGCGCACCAGGACA TTCGCAGATTGCATCCAGGCCCTCCTGGAGCAGCATCAGGTGCTGGAGGTCGGTGGCAACACTGCGCGCCTGGTA GCCATGGGCTCTGCCTTGGCTCCTGCACTCCGTGCGGCTGAAAGACAGAGAAGACGCCGACATCCAGAGA CACAGCCCCGGGGCACCAAGAGGCGCCCAGCTGGGCCAGTGAGAATGGGGAGACCGACGCCGAGGGCACCCAG ATGACCCCTGCCAAGAGGCCAGCGCTCCAGGACTCAAATTTGGCCCCCAGCCTTGGGCCCGGAGCTGAAGATGGG GCAGAAGCCCAGGCCCCATCTCCACCCCCAGCTCTTGAAGACACCGCTGCAGCGGGAGCAGCACAGGAAGACCAA GAGGGTGTCGGTGAGTTCAGTTCCCCAGGCCAAGAGCAGCTGAGCGGCCAGGCGCAGCCTCCAGAGGGCTCTGAA GACCCCAGAGGGTTCACAGAGAGTTTCGGAGCTGCCAACATCTCCCAGGCAGCACGGGAAAGGGACTGTGAGAGT GTCTGCTTCATCGGCCGGCCGTGGCGTGTCGTGGATGGCCACCTGAACCTTCCTGTATGCAAGGGTATGATGGAG GCCATGCTGTACCACATCATGACCAGGCCTGGCATCCCCGAGAGCTCCCTGCTGCGCCACTACCAGGGGGTCCTG CCAAGGCCTGTCTCGCTCTTCTCTACACCCGTGGTGGAAGAGGTGGAAGTGCCCTCCAGCCTGGACGAGAGCCCC ATGGCTTTCTATGAGCCCACCTTGGACTGTACCCTCCGGCTGGGCCGTGTGTTCCCCCCACGAGGTCAACTGGAAC GTGCTCGGCAGACCCCACTGTGCCCTGGCCTTGGGTCTGCCGAGCCTCCTGCAGCAGGGGACGGGTGCTTTGGCC AGAGTCACAGACTGACACGTTTCCCACTGTACTGGAACTCTGGAAAGAGGGGCTCCCCGACCTGCCCATCCCCCA GGCTCTTCTGGGCCTTCCCCTTGGGAACTGGCCTCATCACACTGGGAGTTGGTGCTTCTTGTCTCTGGGTCTCCA GAGTTTGCCCCGCCTGTGCACACCTCACATTCCAGACTCTAGCCATCTCGGCAGGATCTCCTGGCTCCTTGAGTG CCCAGGTGCCACCAAGAGGAAGGGCCTTGTGGGATACACCTTGCAGAATAGGGATCGGTGTGCCCCGCTGCGAGG GGCTGGTGATTCCTTGCAGG

GTCGTGATCAGACGAGCGGTGAGCGATCGATACTCCTATGCTAGCCTCTGGCTCCTCAGGGGACACAGCCGAGTG GTCGGACCAAACGCAACGAGTCTTCGCCAGCCCAAAGGCGACTCGACACCGTCCCAGCTGAAGAGAGACGCACGGGA $\tt CTGAACCAGCTGGTGGTGGCCCG\underline{ATG}GCTGGAGACACCCACTGCCCCGCAGAGCCCCTGGCCAGAGAAGGCACTT$ TATGGGAGGCCCTCAGGGCGCTCCTGCCGCACAGTAAAGAAGACCTGAAGTTGGACCTCGGGGAGAAAGTGGAGA GGAGCGTGGTGACATTGTTGCAGCGAGCCACTGAGCTCTTCTACGAGGGCAGGAGGGACGAGTGTCTGCAGAGCA GCGAGGTGATCCTGGACTACTCCTGGGAGAAGCTCAACACGGGCACATGGCAGGACGTAGACAAAGACTGGCGCC GGGTCTACGCCATCGGCTGCCTCCTGAAAGCCCTGTGTCTGTGCCAGGCACCTGAGGATGCCAACACTGTGGCCG AGCATTTCAGGGAGCAGTTTTTGGTTCCAGGGAGGCCCGTGATCCTGAAAGGCGTGGCTGACCACTGGCCGTGCA ACACAGATGAGGAATGGTCCCAGACCCTCATGACGGTCAACGAGTTCATCAGCAAATACATCGTGAATGAGCCAA GGGACGTCGGGTACCTTGCTCAGCACCAGCTCTTTGACCAGATCCCGGAGTTGAAGCAGGACATCAGCATCCCCG ACTACTGCAGCCTGGGCGATGGGGAGGAGGAGGAAATCACCATCAATGCCTGGTTTGGTCCCCAGGGAACCATCT CGCAGGAGTCAGGGGCTCTGTACCCTCATGACACGCACCTTCTCCATAACACGAGCCAGGTTGACGTGGAGAATC CCGACCTGGAAAAGTTCCCCAAGTTTGCCAAGGCCCCATTCCTGTCCTGCATCCTGTCTCCTGGAGAGATCCTGT TCATCCCGGTGAAATACTGGCATTACGTGCGGGCTCTGGATTTGAGCTTCTCGGTCAGCTTCTGGTGGTCG<u>TAG</u>C CAGGATAGGAGCTGAAAGGGCCTGACATGCAGACAGCATTCATCTGTTCACTAATTTCCTGGGTCCTGGAATCTA TAGAGACAAGCAGGACTGAACCTGTGTCCTGAAGAGCCTTCACTGCCCAGTGGCAGCCCTGGGGGGCTGAGCTCC GTGGGGAGAGCCCAGAAGGACATTGCAGACAGACAGCCTGCATGGGGACTCTGGCATCAGAAAGCCGAATGTTTT TGGGAAACGGGTGGGTCACACAGGCAGGGGTGAAACATGGGCTCTGAGGTTGGCTACCTGATTCAAACCCGGCCG CGCTGTGCACCTGCTGGGTGACTTGGCCAGGATCCCCCACTTCGCTGTGCCCATATGGAAAAAGAGGGCCAAGGCCA GTCCTCACTGCCGAGGGCCGAGAAGGCGGTGCCGAGCCCCTGCTGCTGCATGAACCTTAGCCGCTGTCACTGATC CCAATTACTCTGATCCTTTTGCCCTTCCCTTCCCATAACGGCCTGCTGGACGCCACAGCCTGAATACTGGAGAGAG CTGGGCATTGCCCAGGTCACAGGAGAGAGTCCGTAGAGACCTGCGCAGGAGCCGGGACCCCTGCTGAGCAGTGGG TTTCACCCGCACTCACCCAGGAGCAGGCTCCCAAGTGAAGAAACCACCGAACCATCACCAGCTCCTAGAAGCCTC CCTCCTACCACCTTCTAGTCACCATCCCCCAGAAGTAATGACTCTCAAACCTGGGGGGATTTGAGGCCAGGGGGAG ATTTTCCCCAGCCCTC

MAGDTHCPAEPLAREGTLWEALRALLPHSKEDLKLDLGEKVERSVVTLLQRATELFYEGRRDECLQSSEVILDYS WEKLNTGTWQDVDKDWRRVYAIGCLLKALCLCQAPEDANTVAAALRVCDMGLLMGAAILGDILLKVAAILQTHLP GKRPARGSLPEQPCTKKARADHGLIPDVKLEKTVPRLHRPSLQHFREQFLVPGRPVILKGVADHWPCMQKWSLEY IQEIAGCRTVPVEVGSRYTDEEWSQTLMTVNEFISKYIVNEPRDVGYLAQHQLFDQIPELKQDISIPDYCSLGDG EEEEITINAWFGPQGTISPLHQDPQQNFLVQVMGRKYIRLYSPQESGALYPHDTHLLHNTSQVDVENPDLEKFPK FAKAPFLSCILSPGEILFIPVKYWHYVRALDLSFSVSFWWS

WO 2004/030615 PCT/US2003/028547

4810/6881 FIGURE 4434

WO 2004/030615 PCT/US2003/028547

4811/6881 FIGURE 4435

GAAGCAGTTCAACCGCATGAAGCAGCTGGCTAACCAGACCGTGGGCAGAGCTGAGAAAACAGAAGTCCTTAGTGA AGATCTATTACAGATTGAGAGACGCCTGGACACGGTGCGGTCAATATGCCACCATTCCCATAAGCGCTTGGTGGC ATGTTTCCAGGGCCAGCATGGCACCGATGCCGAGAGGAGACACAAAAAACTGCCTCTGACAGCTCTTGCTCAAAA TATGCAAGAAGCATCGACTCAGCTGGAAGACTCTCTCCTGGGGAAGATGCTGGAGACGTGTGGAGATGCTGAGAA TCAGCTGGCTCTCGAGCTCTCCCAGCACGAAGTCTTTGTTGAGAAGGAGATCGTGGACCCTCTGTACGGCATAGC AGCCAGGTGGAACCAAGCTCACAAATCCTCAGGAACCAACTTTCAGGGGCTTCCATCAAAAATAGATACTCTAAA GGAAGAGATGGATGAAGCTGGAAATAAAGTAGAACAGTGCAAGGATCAACTTGCAGCAGACATGTACAACTTTAT GGCCAAAGAAGGGGAGTATGGCAAATTCTTTGTTACGTTATTAGAAGCCCAAGCAGATTACCATAGAAAAGCATT AGCAGTCTTAGAAAAGACCCTCCCCGAAATGCGAGCCCATCAAGATAAGTGGGCGGAAAAACCAGCCTTTGGGAC GGAGACAGGCATGAAGGAGGAGGGCCTTTTCCGAATTGGGGCTGGGGCCTCCAAGTTAAAGAAGCTGAAAGCTGC TTTGGACTGTTCTCACCTGGATGAGTTCTATTCAGACCCCCATGCTGTAGCAGGTGCTTTAAAATCCTA TTTACGGGAATTGCCTGAACCTTTGATGACTTTTAATCTGTATGAAGAATGGACACAAGTTGCAAGTGTCAGGA TCAAGACAAAAAACTTCAAGACTTGTGGAGAACATGTCAGAAGTTGCCACCACAAAATTTTGTTAACTTTAGATA TTTGATCAAGTTCCTTGCAAAGCTTGCTCAGACCAGCGATGTGAATAAAATGACTCCCAGCAACATTGCGATTGT GTTAGCCCCTAACTTGTTATGGGCCAGAAACGAAGGAACACTTGCTGAAATGGCAGCAGCCACATCCGTCCATGT GGTTGCAGTGATTGAACCCATCATTCAGCATGCCGACTGGTTCTTCCCTGAAGAGGTGGAATTTAATGTATCAGA AGCATTTGTACCTCTCACCACCCCGAGTTCTAATCACTCATTCCACACTGGAAACGACTCTGACTCGGGGACCCT GGAGAGGAAGCGGCCTGCTAGCATGGCGGTGATGGAAGGAGCTTGGTGAAGAAGGAAAGTCCTCCCAAACCGAA GGACCCTGTATCTGCAGCTGTGCCAGCACCAGGGAGAAACAACAGTCAGATAGCATCTGGCCAAAATCAGCCCCA GGCAGCTGCTGGCTCCCACCAGCTCTCCATGGGCCAACCTCACAATGCTGCAGGGCCCAGCCCGCATACACTGCG CCGAGCTGTTAAAAAACCCGCTCCAGCACCCCCGAAACCGGGCAACCCACCTCCTGGCCACCCCGGGGGCCAGAG GCACACGGGCCAGCCTCCAGGCCAGCCCTCCCAGCTCTCAGCACCCCGGAGGTACTCCAGCAGCTT GTCTCCAATCCAAGCTCCCAATCACCCACCGCCGCAGCCCCTACGCAGGCCACGCCACTGATGCACACCAAACC CAATAGCCAGGGCCCTCCCAACCCCATGGCATTGCCCAGTGAGCATGGACTTGAGCAGCCATCTCACACCCCTCC CCAGACTCCAACGCCCCCAGTACTCCGCCCCTAGGAAAACAGAACCCCAGTCTGCCAGCTCCTCAGACCCTGGC AGGGGGTAACCCTGAAACTGCACAGCCACATGCTGGAACCTTACCGAGACCGAGACCAGTACCAAAGCCAAGGAA CCGGCCCAGCGTGCCCCCCCCCCCCAACCTCCTGGTGTCCACTCAGCTGGGGACAGCAGCCTCACCAACACACC ACCAACAGCTTCCAAGATAGTAACAGACTCCAATTCCAGGGTCTCAGAACCGCATCGCAGCATCTTTCCTGAAGT GCACTCAGACTCAGCCAGCAAAGACGTGCCTGGCCGCATCCTGCTGGATATAGACAATGATACCGAGAGCACTGC $\verb|CCTGTGA| AGAAAGCCCTTTCCCAGCCCTCCACCACTTCCACCCTGGCGAGTGGAGCAGGGGGAACCTCTT| \\$ TCTTTGCAGACCGAACAGTGAAAAGCTTTCAGTGGAGGACAAAGGAGGGCCTCACTGTGTGGGGACCTGGCCTTCT CATGGGAAGGAAATCATGCCAAAAAAATCCAAAACAAAGAAGTACCTGGAGTGGAGAGAGTATTCCTGCTGAAAC GCGCATAGGAAGCTTTTGTCCCTGCTGTTAATGCGGGCAGCACCTACAGCAACTTGGAATGAGTAAGAAGCAGTG CGTTAACTATCTATTTAATAAAATGCGCTCATTATGCAAGTCGCCTACTCTCTGCTACCTGGACGTTCATTCTTA TGTATTAGGAGGGAGGCTGCGCTCCTTCAGACTTGCTGCAGAATCATTTTGTATCATGTATGGTCTGTGTCTCCC CAGTCCCCTCAGAACCATGCCCATGGATGGTGACTGCTGGCTCTGTCACCTCATCAAACTGGATGTGACCCATGC TTGATAAGGACCGAACATTATTCTAGTTTCATGTTTAATTTGAATTAAATATATTCTGTGGTTTATATG

MKKQFNRMKQLANQTVGRAEKTEVLSEDLLQIERRLDTVRSICHHSHKRLVACFQGQHGTDAERRHKKLPLTALA QNMQEASTQLEDSLLGKMLETCGDAENQLALELSQHEVFVEKEIVDPLYGIAEVEIPNIQKQREQLARLVLDWDS VRARWNQAHKSSGTNFQGLPSKIDTLKEEMDEAGNKVEQCKDQLAADMYNFMAKEGEYGKFFVTLLEAQADYHRK ALAVLEKTLPEMRAHQDKWAEKPAFGTPLEEHLKRSGREIALPIEACVMLLLETGMKEEGLFRIGAGASKLKKLK AALDCSTSHLDEFYSDPHAVAGALKSYLRELPEPLMTFNLYEEWTQVASVQDQDKKLQDLWRTCQKLPPQNFVNF RYLIKFLAKLAQTSDVNKMTPSNIAIVLAPNLLWARNEGTLAEMAAATSVHVVAVIEPIIQHADWFFPEEVEFNV SEAFVPLTTPSSNHSFHTGNDSDSGTLERKRPASMAVMEGDLVKKESPPKPKDPVSAAVPAPGRNNSQIASGQNQ PQAAAGSHQLSMGQPHNAAGPSPHTLRRAVKKPAPAPPKPGNPPPGHPGGQSSSGTSQHPPSLSPKPPTRSPSPP TQHTGQPPGQPSAPSQLSAPRYSSSLSPIQAPNHPPPQPPTQATPLMHTKPNSQGPPNPMALPSEHGLEQPSHT PPQTPTPPSTPPLGKQNPSLPAPQTLAGGNPETAQPHAGTLPRPRPVPKPRNRPSVPPPPQPPGVHSAGDSSLTN TAPTASKIVTDSNSRVSEPHRSIFPEVHSDSASKDVPGRILLDIDNDTESTAL

4814/6881 FIGURE 4438A

GAAACCTCTAGGTCCACCACCTCCATCTTACACGTGTTTCCGTTGTGGTAAACCTGGACATTATATTAAGAATTG CCCAACAAATGGGGATAAAAACTTTGAATCTGGTCCTAGGATTAAAAAGGGCACTGGAATTCCCAGAAGTTTCAT GATGGAAGTGAAAGATCCTAATATGAAAGGTGCAATGCTTACCAACACTGGAAAATATGCAATACCAACTATAGA TGCAGAAGCATATGCAATTGGGAAGAAAGAGAAACCTCCCTTCTTACCAGAGGAGCCATCTTCTTCCTCAGAAGA AGATGATCCTATCCCAGATGAATTGTTGTGTCTCATCTGCAAGGATATTATGACTGATGCTGTTGTGATTCCCTG CTGTGGAAACAGTTACTGTGATGAATGTATAAGAACAGCACTCCTGGAATCAGATGAGCACACATGTCCGACGTG TCATCAAAATGATGTTTCTCCTGATGCTTTAATTGCCAATAAATTTTTACGACAGGCTGTAAATAACTTCAAAAA TGAAACTGGCTATACAAAAAGACTACGAAAACAGTTACCTCCTCCACCCCCCAATACCACCTCCGAGACCACT GATTCAGAGGAACCTACAACCTCTGATGAGATCTCCGATATCAAGACAACAAGATCCTCTTATGATTCCAGTGAC ATCTTCATCAACTCACCCAGCTCCGTCTATATCTTCATTAACTTCTAATCAGTCTTCCTTGGCCCCTCCTGTGTC ATCAGATGGACCTTTTCGGGATTCTGATAATAAATTTGCCAGCTGCAGCTCTTGCATCAGAGCACTCAAAGGG AACCTCCTCAATTGCAATTACCGCTCTTATGGAAGAGAGGGTTACCAGGTGCCTGTTCTTGGAACCCCATCTTT TGGTGGTCGACCAGGCTGGGAACATTCCAACAAACTTGGCTATCTGGTTTCTCCACCACAACAAATTAGAAGAGG GGAGAGGAGCTGCTACAGAAGTATAAACCGTGGGCGACACCACAGCGAAAGATCACAGAGGACTCAAGGCCCGTC ACTACCAGCAACTCCAGTCTTTGTACCTGTTCCACCACCTCCTTTGTATCCGCCTCCTCCCCATACACTTCCTCT CCCTCCTCCAGGGTTTCCTCCAGCTCCTGCCAATTTATCAACACCTTGGGTATCATCAGGAGTGCAGACAGCTCA TTCAAATACCATCCCAACAACACAAGCACCACCTTTGTCCAGGGAAGAATTCTATAGAGAGCAGCGACGACTAAA AGAAGAGTCTAAATCTCCCTATAGTGGTTCTTCGTATTCAAGAAGTTCATATACTTATTCTAAATCAAGATCTGG TTCAACACGTTCACGCTCTTATTCTCGATCATTCAGCCGCTCACATTCTCGTTCCTATTCACGGTCACCTCCATA CCCCAGAAGAGGCAGAGGCAAGAGCCGCAATTACCGTTCACGGTCTAGATCTCATGGATATCATCGATCTAGGTC AAGGTCACCCCTTACAGACGCTATCATTCACGATCAAGATCTCCTCAAGCGTTTAGGGGACAGTCTCCTAATAA ACGTAATGTACCTCAAGGGGAAACAGAACGTGAATATTTTAATAGATACAGAGAAGTTCCACCACCATATGACAT GAAAGCATATTATGGGAGAAGTGTTGACTTTAGAGACCCATTTGAAAAAGAACGCTACCGAGAATGGGAGAGAAA ATATAGAGAGTGGTATGAAAAATATTATAAAGGTTATGCTGCTGGAGCACAGCCTAGACCCTCAGCAAATAGAGA GAACTTTTCTCCAGAGAGATTTTTGCCACTTAACATCAGGAATTCTCCCTTCACAAGAGGCCGCAGAGAAGACTA TGTTGGTGGCAAAGTCATAGAAGTCGAAACATAGGTAGCAACTATCCAGAAAAGCTTTCAGCAAGAGATGGTCA CAATCAGAAGGATAATACAAAGTCAAAAGAGAAGGAGAGTGAAAACGCTCCAGGAGATGGTAAAGGAAATAAGCA TAAGAAACACAGAAAAAGAAGAAAAGGGGAGGAAAGTGAGGGTTTTCTGAACCCAGAGTTATTAGAGACTTCTAG AAGGGATAAACCAAAAGCAAAGGGTGATAAAACCAAACGGAAGAATGATGGATCTGCTGTGTCCAAAAAAGAAAA TATTGTAAAACCTGCTAAAGGACCCCAAGAAAAAGTAGATGGAGAACGTGAGAGATCTCCTCGATCTGAACCTCC AATTAAAAAAGCCAAAGAGGAGACTCCGAAGACTGACAATACTAAATCATCATCTTCCTCTCAGAAGGATGAAAA AATCACTGGAACCCCCAGAAAAGCTCACTCTAAATCAGCAAAAGAACACCAAGAAACCAGTCAAAGAGGA AAAAGTGAAGAAGGACTATTCCAAAGATGTCAAATCAGAAAAGCTAACAACTAAGGAAGAAAAGGCCAAGAAGCC TAATGAGAAAAACAAACCACTTGATAATAAGGGAGAAAAAAGAAAAAGAAAAACTGAAGAAAAAGGCGTAGATAA AGATTTTGAGTCTTCTTCAATGAAAATCTCGAAACTAGAAGTGACTGAAATAGTGAAACCATCACCAAAGCGCAA AATCAAACTCAACAGAGAAACTGGGAAGAAAATTGGAAGTACAGAAAATATATCAAACACAAAAGAACCCTCTGA AAAATTGGAGTCAACATCTAGCAAAGTTAAACAAGAAAAAGTCAAAGGAAAGGTCAGACGAAAAGTGACTGGAAC TGAAGGATCCAGCTCAACTCTGGTGGATTACACCAGTACGAGCTCAACTGGAGGCAGTCCTGTGCGGAAATCTGA AGAAAAAACAGATACAAAGCGAACTGTGATTAAAACGATGGAAGAATATAATGACAATACCGCGCCAGCTGA AGATGTTATCATTATGATTCAGGTTCCTCAATCCAAATGGGATAAAGATGACTTTGAATCTGAAGAAGAAGATGT TAAATCCACACCCTATATCAAGTGTAGGAAAACCTGCTAGTGTTATAAAAAATGTTAGTACAAAGCCATCAAA TATAGTCAAGTATCCTGAGAAAGAAAGTGAGCCATCCGAGAAAATTCAGAAATTCACCAAGGACGTGAGCCATGA

4815/6881 FIGURE 4438B

AATCATACAACATGAGGTTAAAAGTTCAAAAAACTCTGCATCTAGTGAAAAAAGGGAAAACCAAAGATCGAGATTA TTCAGTGTTGGAAAAGGAGAACCCTGAAAAGAGGAAGAACAGCACTCAGCCAGAGAAAGAGAGTAATTTGGACCG TCTGAATGAACAAGGAAATTTTAAAAGTCTGTCTCAATCTTCCAAAGAGGCTAGAACGTCAGATAAACATGATTC CACTCGTGCTTCCTCAAATAAAGACTTCACTCCCAATAGAGACAAAAAAACTGACTATGACACCAGAGAGTATTC AAGTTCCAAACGTAGAGATGAAAAGAATGAATTAACAAGACGAAAAGACTCTCCTTCTCGGAATAAAGATTCTGC ATCTGGACAGAAAATAAACCAAGGGAAGAGAGAGATTTGCCTAAAAAAGGAACAGGAGATTCCAAAAAAAGTAA TTCTAGTCCCTCAAGAGACAGAAAACCTCATGATCACAAAGCCACTTATGATACTAAACGGCCAAATGAAGAGAC AAAATCTGTAGATAAAAATCCTTGTAAGGATCGTGAGAAGCATGTATTAGAAGCAAGGAACAATAAAGAGTCAAG TGGCAATAAACTACTTTATATACTTAACCCACCAGAGACACAGGTTGAAAAAGAGCAAATTACTGGGCAAATTGA CAAGAGTACTGTCAAGCCTAAACCCCAGTTAAGTCATTCCTCTAGACTTTCCTCTGACTTAACTAGAGAAACTGA TGAAGCTGCTTTTGAACCAGACTATAATGAAAGTGACAGTGAAAGTAATGTTTCTGTAAAAGAAGAAGAATCTTC AGGAAACATTTCTAAGGACCTGAAAGATAAAATAGTGGAGAAAGCAAAAGAGAGCCTGGACACAGCAGCAGTTGT CCAGGTGGGCATAAGCAGGAATCAGAGCCACAGCAGCAGCCCCAGCAGCAGAAGCCACAGTCCTTCTGG GGAAAAGAAAAACACAAGAAACATAAAAAGCATAAGAAGCATAAGAAACATGCAGGCACTGAAGTGGAATTGGA AAAAAGCCAAAAACACAAACACAAGAAAAGAAGTCAAAGAAGAACAAAGATAAAGAGAAGGAGAAGGAAAAGA TGACCAAAAAGTGAAATCTGTCACTGTGTAAAAAGACAGATTTTTTAAATTGACTTAATTACTAAGTCATCTGTA TTAAATTTTGTTATAATGTAAAGAGATTCAAGCCTTGTAAATAATGACATGGAAGACCCTGTGCTGCACTTAAAA TATTGCTGCTTGATTATTTGATTTTTACATCAGAGCTTTATAACACGAACTTTTGTACAGAATTGTGAGTTGTGA AATGTGAAATTTTCACATTTGAATTTTTTAATTGCCTGGCAAAAGCTGATATAAGTTCTAAAATATCAGCAGAAT GATTTGCTGAATTCATTACAACCCTGTTATGTCACTTTTTGATTACAATAAAAGTTTTCAGTAAACTTTTC

MATTKAIDDSSASISLAQLTKTANLAEANASEEDKIKAMMSQSGHEYDPINYMKKPLGPPPPSYTCFRCGKPGHY IKNCPTNGDKNFESGPRIKKSTGIPRSFMMEVKDPNMKGAMLTNTGKYAIPTIDAEAYAIGKKEKPPFLPEEPSS SSEEDDPIPDELLCLICKDIMTDAVVIPCCGNSYCDECIRTALLESDEHTCPTCHQNDVSPDALIANKFLRQAVN NFKNETGYTKRLRKQLPPPPPPPPPPPPLIQRNLQPLMRSPISRQQDPLMIPVTSSSTHPAPSISSLTSNQSSLA PPVSGNPSSAPAPVPDITATVSISVHSEKSDGPFRDSDNKILPAAALASEHSKGTSSIAITALMEEKGYQVPVLG TPSLLGQSLLHGQLIPTTGPVRINTARPGGGRPGWEHSNKLGYLVSPPQQIRRGERSCYRSINRGRHHSERSQRT QGPSLPATPVFVPVPPPPLYPPPPHTLPLPPGVPPPQFSPQFPPGQPPPAGYSVPPPGFPPAPANLSTPWVSSGV QTAHSNTIPTTQAPPLSREEFYREQRRLKEESKSPYSGSSYSRSSYTYSKSRSGSTRSRSYSRSFSRSHSRSYSR SPPYPRRGRGKSRNYRSRSRSHGYHRSRSRSPPYRRYHSRSRSPQAFRGQSPNKRNVPQGETEREYFNRYREVPP PYDMKAYYGRSVDFRDPFEKERYREWERKYREWYEKYYKGYAAGAQPRPSANRENFSPERFLPLNIRNSPFTRGR REDYVGGQSHRSRNIGSNYPEKLSARDGHNQKDNTKSKEKESENAPGDGKGNKHKKHRKRRKGEESEGFLNPELL ETSRKSREPTGVEENKTDSLFVLPSRDDATPVRDEPMDAESITFKSVSEKDKRERDKPKAKGDKTKRKNDGSAVS KKENIVKPAKGPQEKVDGERERSPRSEPPIKKAKEETPKTDNTKSSSSSQKDEKITGTPRKAHSKSAKEHQETKP VKEEKVKKDYSKDVKSEKLTTKEEKAKKPNEKNKPLDNKGEKRKRKTEEKGVDKDFESSSMKISKLEVTEIVKPS PKRKMEPDTEKMDRTPEKDKISLSAPAKKIKLNRETGKKIGSTENISNTKEPSEKLESTSSKVKQEKVKGKVRRK VTGTEGSSSTLVDYTSTSSTGGSPVRKSEEKTDTKRTVIKTMEEYNNDNTAPAEDVIIMIQVPQSKWDKDDFESE EEDVKSTQPISSVGKPASVIKNVSTKPSNIVKYPEKESEPSEKIQKFTKDVSHEIIQHEVKSSKNSASSEKGKTK DRDYSVLEKENPEKRKNSTQPEKESNLDRLNEQGNFKSLSQSSKEARTSDKHDSTRASSNKDFTPNRDKKTDYDT REYSSSKRRDEKNELTRRKDSPSRNKDSASGQKNKPREERDLPKKGTGDSKKSNSSPSRDRKPHDHKATYDTKRP NEETKSVDKNPCKDREKHVLEARNNKESSGNKLLYILNPPETQVEKEQITGQIDKSTVKPKPQLSHSSRLSSDLT RETDEAAFEPDYNESDSESNVSVKEEESSGNISKDLKDKIVEKAKESLDTAAVVQVGISRNQSHSSPSVSPSRSH KEKDDQKVKSVTV

WO 2004/030615 PCT/US2003/028547

4818/6881 FIGURE 4441

 ${\tt MSCVHYKFSSKLNYDTVTFDGLHISLCDLKKQIMGREKLKAADCDLQITNAQTKEGKGRLVLRYLVAGERY}$

 ${\tt GGCACGAGGGAGCGGGGGGGGCTCTGCTCGGATCGAGGTCTGCAGCGCAGCTTCGGGAGC} {\color{red} \underline{\textbf{ATG}}} {\color{blue} \textbf{AGTGCTGCAG}}$ TGACTGCAGGGAAGCTGGCACGGGCACCCGGCCGACCCTGGGAAAGCCGGGGTCCCCGGAGTTGCAGCTCCCGGAG GGGGCCGCTTTTTGGGCAAGGGCGGCTTTGCCAAGTGCTTCGAGATCTCGGACGCGGACACCAAGGAGGTGTTCG CGGGCAAGATTGTGCCTAAGTCTCTGCTGCTCAAGCCGCACCAGAGGGAAGATGTCCATGGAAATATCCATTC ACCGCAGCCTCGCCCACCAGCACGTCGTAGGATTCCACGGCTTTTTCGAGGACAACGACTTCGTGTTCGTGGTGT ACTACCTACGGCAAATTGTGCTTGGCTGCCAGTACCTGCACCGAAACCGAGTTATTCATCGAGACCTCAAGCTGG GCAACCTTTTCCTGAATGAAGATCTGGAGGTGAAAATAGGGGATTTTGGACTGGCAACCAAAGTCGAATATGACG GGGAGAGGAAGAACCCTGTGTGGGACTCCTAATTACATAGCTCCCGAGGTGCTGAGCAAGAAAGGGCACAGTT TCGAGGTGGATGTGTGGCCATTGGGTGTATCATGTATACCTTGTTAGTGGGCAAACCACCTTTTGAGACTTCTT GCCTAAAAGAGACCTACCTCCGGATCAAGAAGAATGAATACAGTATTCCCAAGCACATCAACCCCGTGGCCGCCT CCCGGGAAAAAGAAGAACCAGTGGTTCGAGAGACAGGTGAGGTGGTCGACTGCCACCTCAGTGACATGCTGCAGC GCATCCCCATCTTCTGGGTCAGCAAGTGGGTGGACTATTCGGACAAGTACGGCCTTGGGTATCAGCTCTGTGATA ACAGCGTGGGGGTGCTCTTCAATGACTCAACACGCCTCATCCTCTACAATGATGGTGACAGCCTGCAGTACATAG AGCGTGACGGCACTGAGTCCTACCTCACCGTGAGTTCCCCATCCCAACTCCTTGATGAAGAAGATCACCCTCCTTA AATATTTCCGCAATTACATGAGCGAGCACTTGCTGAAGGCAGGTGCCAACATCACGCCGCGCGAAGGTGATGAGC TCGCCCGGCTGCCCTACCTACGGACCTGGTTCCGCACCCGCAGCGCCATCATCCTGCACCTCAGCAACGGCAGCG TGCAGATCAACTTCTTCCAGGATCACCAAGCTCATCTTGTGCCCACTGATGGCAGCCGTGACCTACATCGACG AGAAGCGGGACTTCCGCACATACCGCCTGAGTCTCCTGGAGGAGTACGGCTGCTGCAAGGAGCTGGCCAGCCGGC AGCTGCCCTCCCGGACTGGTGCCCTCCTCACTCCCACCTGCATCTGGGGCCCATACTGGTTGGCTCCCGCG GTGCCATGTCTGCAGTGTGCCCCCCAGCCCCGGTGGCTGGGCAGAGCTGCATCATCCTTGCAGGTGGGGGTTGCT GTGTAAGTTATTTTTGTACATGTTCGGGTGTGGGTTCTACAGCCTTGTCCCCCTCCCCCTCAACCCCACCATATG AATTGTACAGAATATTTCTATTGAATTCGGAACTGTCCTTTCCTTGGCTTTATGCACATTAAACAGATGTGAATA ТТСААЛААААААААААААААААААААААААААААААА

MSAAVTAGKLARAPADPGKAGVPGVAAPGAPAAAPPAKEIPEVLVDPRSRRRYVRGRFLGKGGFAKCFEISDADT KEVFAGKIVPKSLLLKPHQREKMSMEISIHRSLAHQHVVGFHGFFEDNDFVFVVLELCRRRSLLELHKRRKALTE PEARYYLRQIVLGCQYLHRNRVIHRDLKLGNLFLNEDLEVKIGDFGLATKVEYDGERKKTLCGTPNYIAPEVLSK KGHSFEVDVWSIGCIMYTLLVGKPPFETSCLKETYLRIKKNEYSIPKHINPVAASLIQKMLQTDPTARPTINELL NDEFFTSGYIPARLPITCLTIPPRFSIAPSSLDPSNRKPLTVLNKGLENPLPERPREKEEPVVRETGEVVDCHLS DMLQQLHSVNASKPSERGLVRQEEAEDPACIPIFWVSKWVDYSDKYGLGYQLCDNSVGVLFNDSTRLILYNDGDS LQYIERDGTESYLTVSSHPNSLMKKITLLKYFRNYMSEHLKAGANITPREGDELARLPYLRTWFRTRSAILHL SNGSVQINFFQDHTKLILCPLMAAVTYIDEKRDFRTYRLSLLEEYGCCKELASRLRYARTMVDKLLSSRSASNRL KAS

GGCACGAGGAAAGACTGACCGACTGACTCTGACAGGATCCGGGGCTGAGGGAAGGAGGCGGCGGCC<u>ATG</u>GAGTTG AATGTAAGAGTTGGACGTCATTGTGTTGTGAAAAGTCGTAGTGTCATAAGGCCACCATTCAAGAAGTTCAGCAAA GGTGTTGCATTCTTTCCTTTACATATTGGAGACCATGTCTTTATTGAGGAAGATTGTGTGGTCAACGCAGCACAG ATTGGTTCCTATGTTCATGTTGGGAAGAACTGTGTGATTGGGCGCCGATGTGTTGAAAGACTGCTGCAAAATT CTTGACAACACAGTATTACCTCCAGAAACTGTGGTTCCACCATTCACTGTCTTCTCAGGCTGCCCAGGACTCTTC TCAGGGGAGCTCCCGGAGTGCACTCAGGAGCTGATGATTGACGTCACCAAGAGCTACTACCAGAAGTTTTTGCCC $\tt CTGACGCAAGTC{\color{blue}{\textbf{TAG}}} CATCTCTGCCTCATGTCTTGAATCTGCTTGAGCTCTAAGATGAACCTGGGGACAAAGTGA$ GCCAGTCAGCACCTACAAAGAGCTTTTGTGTCTTTGACATCTACCACCCTCCTCCTTTTAAAAAATTTCTTTAGA TGCTGTGCTTACACCTTATCTATGAACAGTCACTTTGTACCATTATCTGTGGAACACAGAATCATCTGTTCCCAA CACTCCAGCCCTTGGTCCTGTGGATGGCTGGATCCCGCCTGAAACGGACCTGCAGAGCAGCAGCACCCTTCCGG TGTGGAGGCTATGTAGCTGGTGCGCTGCTCACGGCCATTCACTGCCCATGCTGAGCGCCTCTCACACAGGTAATG CCCAGCTTTTCTGCTGCTAACACATTTGGCCAGTTGTTGCAGTTGCTCATCATCTTGGGAAAGGTGTTTGTGACT ATGACCTTAGCTGTCCTAGGATAGTTAGTAAAAGACTTTTTAGCATTTTGACCTAGGGCCTTTGGCTTTCACTAA AAGTGGGGACCTCAGTATCCCAGATTGTAATTTTGCCAAGTGTTAGATTTGAGTCTCTCATGTGGATGCATTAGT CAGGTGGTTACTCCTTGCTTCAAGGTACTTACCTTATTTCATTGAAGACACCGCATTTGTGAACTCTTGCTTCCT GGCCTAGAACCATTCAGCCTACCCTGTATTTGCCATAAACTCCACAATTCACACCAAAATGTCTGTACTTAGAGC TAATTCGCATATATACAGGAAGGGCTCTTAGAATCAGTTTGTGGGCACAGAGCCTCAGGAGTAAATGAAGTTACT AGGGCTGTTCTTACCATCTCCTTCTGGCCAAATAGCACAACATTTCCTCGTTCTGCTCTGACCTCTTAGCTTAGA AGGAAGATTCAGAAGTGAGGGGCTAAGAAGGTTGTCCTTGCCTAATGCTCTGATCTGTAAGTGAATAGGGCAGAA CAGTTCAGCCTTGAGGTTAGAATTTAGCAGGAGCTATCCTGACTTAATATCCAGTTGTGGGGTTTGCAAAACAAA ACAGCTGTATGTAATCATTGCCACTAGTTCCATCTAGAACTCCTTTCTAGTTTGTTATTTTTAAAATGTTTATAC AGCTGGTCCAGGCCAGGCAAGGGGCTGGTCCATGATGTCATCAGGCACCCAGGTTCCTACTGTCTTGCCATGTGG CTAGTAAAAAGGAGTGGGGGAAGAATGGCCATTGGGAGACAACAAGCAGACTCAACCAGGCCTCTTTGTTGGCTT CCTTTCCTCCTGCTGCACATGAGCCTTCGCCTTGCATTTGGAGCCATGACAGCTGATAGCTCCAGACCTGCATCC TCCTAGCTTGGGGGCTCTGAATGAAAGGTTTCTTCCCTTCCAGTTCGAATTTGGAAACTCCCAAAGTTCTCAATG TTTATAATTATGTGCTGATGTATTCGAAGATGTGTTGACAGTCGTGAGTGTGTATCCTAGGAAAGGCGAGCTGGA CTCTGTCTCCATGGTGGCTCTCACCCCAGGGACCTAGGAACAGCCTGTCACCACACAATTACTTTTATAACCCTG TCCAGTTCACTTGGGGCAGAGGGAATTTAATGGCTCACGTAGCTGAAAAGGATGGGCTAGATTGGGCTTCAGGCT GCATCCCAGGACTCCAAACAGGGATCTGTCTCTTTGGCTCTCAGCTCTGCTTTCATTTGAGTTGGCTTTATTCTT GGGCTTCACAGTGTGGCCCCACAGCACCAGTTATTGATAAAAAGAGCTCCCCTTTGCTGACAGAACTGCTGGATT TGGTTCTCATTGGTCCAGACGAGGAAGGTATCCAGCCTCAAGTCATCATTGTGGCCAGGAAGATGGAATACACCA AATGGACAGGCCTGGCATGTACCCACAGAGACTGAGAGTTGGTGGTGGTGGTGGTGGTGGCAGATGATATTACCT GAAGAAGGGACGAATGGGTGCTGGGCAGGACAAAGCATCAGCTGTCCAGTTCAGGCCTCTCCTCTTTCCCTGGTG TCTTCATTTTCCTCCGTCTCCCTGCTCGTCCCTTACCCTCTGCCCAATCTCTCATTACTCCTGGTCTTGGGAGTTG AAAAAAAAAA

MELGELLYNKSEYIETASGNKVSRQSVLCGSQNIVLNGKTIVMNDCIIRGDLANVRVGRHCVVKSRSVIRPPFKK FSKGVAFFPLHIGDHVFIEEDCVVNAAQIGSYVHVGKNCVIGRRCVLKDCCKILDNTVLPPETVVPPFTVFSGCP GLFSGELPECTQELMIDVTKSYYQKFLPLTQV

 ${\tt MASRVLSAYVSRLPAAFAPLPRVRMLAVARPLSTALCSAGTQTRLGTLQPALVLAQVPGRVTQLCRQYSDMPPLTLGIQDRVLYVLKLYDKIDPEKLSVNSHFMKDLGLDSLDQVEIIMAMEDEFGFEIPDIDAEKLMCPQEIVDYIADKKDVYE$

GTTTTTCCATGTTGCCCAGGCTGGTCTCAAACTCCTGGGCTCAAGCAATCCTTCTGTCTCAGCCTCCCCAAGTAC TGGGATTACAGGCATGTCCCACCATGCCCAGACTAATATTTACTTTTAATCAGACTAAGATAGGGTTACTACTTG AGTTGCTATGGCTCCAGCTGAAAGCCTGTGCAGTCATATCATGGGTAAACATTTGCTTTATGCTAAAAATATGGT GGACCTGGCATTACAGCTATTACAAATCTCCTAAGGTGTCTCAGGTAGTGTATTAGTTACTTTTCATACTGCTAT GAAGAAATACTCGAGACTGGGTAATTTATAAAGGAAAAGAGGTTTAATGTACTCACAGTTCCACAGGCTGGGGA GGCCTCAGAATCATGGTGGAAGGCAAAGAAGGAGCAAAGGTACGTCTTACATGGCTGCAGGAAAGAGAGCACGTG CAGGGAAACTGCCCTTTATAAAACCATCAGATTTAGTGAGATGTATTCACTATCACAAGAACAGTATGGGAAAAA GATGAAATTTGGGTGGGGACGCAGCCAAACCATATCGGGTAGCAACAACCTAGGGTCAGTTTTGCAGGTGGTAAA GCCATTTACCAAGATAGTTGTAGGTAAAGAAGGGCAGATTTATTAGAGAAATTATGAAAATATGTTGCAGTGGGC AGCTCAGCAGAGAGGGGCTACCTGCAAAGAGGCAGGGGCTGGAGGAAAGTTTTATAGGGTCCTGCAGGGGTG CTCCACATAAGGGTGTGGAAACTTCÄTTCATTCATATCTTCAACACAAATTGTAGGTAGCCTGTTTTTTAAAAAA TTTATTCAACAAATATTTAGTCCAAGCCACTGTTACTTATTACCCTCTCTACTTCTGTATGGACTTTTAACTATC ACTAATACTCACAGGGAATATATAGAGGTCTAGAAGAAAATATACAGGTCCTTAGAGGCTGCTCTGCCAACAAAAC GAATTTCCAGACTTCCTTTCTGCATTAACCAGTTTAACTAGATAGTAATGAAATATCCCTCTACTTTATGCTGTG ATAGTTTATTTATTTGAGAGTTTATTTATTTATTTTGAGACAACAGAGCGAGACTCCGTCTCA

TCTCTCTCGGCGTTTCCGCTGTCAGGGCCTGCGGTGTGACTCGCGGGCTCAGCTGGTCCGGCCGTAGCACCTCCG CGCCGTCGCCATGTCGCGGTTTTTCACCACCGGTTCGGACAGCGAGTCCGAGTCGTCCTTGTCCGGGGAGGAGCT CGTCACCAAACCTGTCGGAGGCAACTATGGCAAACAGCCATTGTTGCTGAGCGAGGATGAAGAAGATACCAAGAG AGTTGTCCGCAGTGCCAAGGACAAGAGGTTTGAGGAGCTGACCAACCTTATCCGGACCATCCGTAATGCCATGAA GATTCGTGATGTCACCAAGTGCCTGGAAGAGTTTGAGCTCCTGGGAAAAGCATATGGGAAGGCCAAAAGCATTGT GGACAAAGAAGGTGTCCCCCGGTTCTATATCCGCATCCTGGCTGACCTAGAGGACTATCTTAATGAGCTTTGGGA AGATAAGGAAGGAAGAAGAAGAACAAGAACAATGCCAAGGCTCTGAGCACCTTGCGTCAGAAGATCCGAAA ATACAACCGTGATTTCGAGTCCCATATCACAAGCTACAAGCAGAACCCCGAGCAGTCTGCGGATGAAGATGCTGA GAAAAATGAGGAGGATTCAGAAGGCTCTTCAGATGAGGATGAGGATGAGGACGGAGTCAGTGCTGCAACTTTCTT AGAAGATTCCGAAGATGATGAAGACTGGGACACAGGTTCCACATCTTCCGATTCCGACTCAGAGGAGGAAGAAGG GAAACGGGAGGACAAAGCTAAGAAGAAGCACGACAGGAAATCCAAGCGCCTGGATGAGGAGGAGGAGGACAATGA AGGCGGGGAGTGGGAAAGGGTCCGGGGCGGAGTGCCGTTGGTTAAGGAGAAGCCAAAAATGTTTGCCAAGGGAAC TGAGATCACCCATGCTGTTGTTATCAAGAAACTGAATGAGATCCTACAGGCACGAGGCAAGAAGGGAACTGATCG TGCTGCCCAGATTGAGCTGCTGCAACTGCTGGTTCAGATTGCAGCGGAAAACAACCTGGGAGAGGGCGTCATTGT CAAGATCAAGTTCAATATCATCGCCTCTCTCTATGACTACAACCCCAACCTGGCAACCTACATGAAGCCAGAGAT GTGGGGGAAGTGCCTGGACTGCATCAATGAGCTGATGGATATCCTGTTTGCAAAATCCCAACATTTTTGTTGGAGA GAATATTCTGGAAGAGTGAGAACCTGCACAACGCTGACCAGCCACTGCGTGTCCGTGGCTGCATCCTAACTCT GGTGGAACGAATGGATGAAGAATTACCAAAATAATGCAAAATACTGACCCTCACTCCCAAGAGTACGTGGAGCA CTTGAAGGATGAGGCCCAGGTGTGCCATCATCGAGCGTGTGCAGCGCTACCTGGAGGAGAAGGGCACTACCGA GGAGGTCTGCCGCATCTACCTGCTGCGCATCCTGCACACCTACTACAAGTTTGATTACAAGGCCCATCAGCGACA GCTGACCCCGCCTGAGGGCTCCTCAAAGTCTGAGCAAGACCAGGCAGAAAATGAGGGCGAGGACTCGGCTGTGTT GATGGAGAGACTGTGCAAGTACATCTACGCCAAGGACCGCACAGACCGGATCCGCACATGTGCCATCCTCTGCCA CATCTACCACCATGCTCTGCACTCGCGCTGGTACCAGGCCCGCGACCTCATGCTCATGAGCCACTTGCAGGACAA CATTCAGCATGCAGACCCGCCAGTGCAGATCCTTTACAACCGCACCATGGTGCAGCTGGGCATCTGTGCCTTCCG CCAAGGCCTGACCAAGGACGCACACACGCCCTGCTGGACATCCAGTCGAGTGGCCGAGCCAAGGAGCTTCTGGG ${\tt CCAGGGCCTGCTGCGCAGCCTGCAGGAGCGCAACCAGGAGCAGGAGAAGGTGGAGCGGCGCCGTCAGGTCCCC}$ CTTCCACCTGCACATCAACCTGGAGCTGCTGGAGTGTCTACCTGGTGTCTGCCATGCTCCTGGAGATCCCCTA GCGACAGCCCCTGCTGGGTCCCCTGAGTCCATGCGGGAACATGTGGTCGCTGCCTCCAAGGCCATGAAGATGGG TGACTGGAAGACCTGTCACAGTTTTATCATCAATGAGAAGATGAATGGGAAAGTGTGGGACCTTTTCCCCGAGGC TGTCTATGACTCCATCAGCATGGAGACGCTGTCAGACATGTTTGAGCTGGATCTGCCCCACTGTGCACTCCATCAT GGTGTTTGACCACAAGCAGGGCACCTACGGGGGCTACTTCCGAGACCAGAAGGACGGCTACCGCAAAAACGAGGG $\tt CTACATGCGCCGCGGTGGCTACCGCCAGCAGCAGTCTCAGACGGCCTAC\underline{TGA}_{GCTCTCCACTCTGTTTCCCGCCT$ GGGCCATCCAACCTTGAAGTCCTAAACCACACCTCAGTCACTAAAGGTCTGTTTAAAGTTGTTCTGGTTGATTGC AGGCTCAGATGAAGAGGTGAATTGAAC

MSRFFTTGSDSESSSLSGEELVTKPVGGNYGKQPLLLSEDEEDTKRVVRSAKDKRFEELTNLIRTIRNAMKIRD VTKCLEEFELLGKAYGKAKSIVDKEGVPRFYIRILADLEDYLNELWEDKEGKKKMNKNNAKALSTLRQKIRKYNR DFESHITSYKQNPEQSADEDAEKNEEDSEGSSDEDEDEDGVSAATFLKKKSEAPSGESRKFLKKMDDEDEDSEDS EDDEDWDTGSTSSDSDSEEEEGKQTALASRFLKKAPTTDEDKKAAEKKREDKAKKHDRKSKRLDEEEEDNEGGE WERVRGGVPLVKEKPKMFAKGTEITHAVVIKKLNEILQARGKKGTDRAAQIELLQLLVQIAAENNLGEGVIVKIK FNIIASLYDYNPNLATYMKPEMWGKCLDCINELMDILFANPNIFVGENILEESENLHNADQPLRVRGCILTLVER MDEEFTKIMQNTDPHSQEYVEHLKDEAQVCAIIERVQRYLEEKGTTEEVCRIYLLRILHTYYKFDYKAHQRQLTP PEGSSKSEQDQAENEGEDSAVLMERLCKYIYAKDRTDRIRTCAILCHIYHHALHSRWYQARDLMLMSHLQDNIQH ADPPVQILYNRTMVQLGICAFRQGLTKDAHNALLDIQSSGRAKELLGQGLLLRSLQERNQEQEKVERRRQVPFHL HINLELLECVYLVSAMLLEIPYMAAHESDARRRMISKQFHHQLRVGERQPLLGPPESMREHVVAASKAMKMGDWK TCHSFIINEKMNGKVWDLFPEADKVRTMLVRKIQEESLRTYLFTYSSVYDSISMETLSDMFELDLPTVHSIISKM IINEELMASLDQPTQTVVMHRTEPTAQQNLALQLAEKLGSLVENNERVFDHKQGTYGGYFRDQKDGYRKNEGYMR RGGYRQQQSQTAY

GTGCATGCCGTGGGTCTGACGGCTTGAGTAGCGCTAGGGAGAATCCCTGCAGGTAATATTTGACTTTTGCTTCAT ATTAATCTGAGTGGAAAATAAAAGGGCCCTCTTCTCCTCTCGCTTCCCTGCCGGGCAGGCGCCA**TG**GCGGAAGCC TCGGCGACGGCGCCTGCGGAGAGGCGATGGCAGCGGCGGAAGGCTCCTCGGGCCCGGCGGGCTTGACTCTGGGC TCCGGCATGAAGGCTGAGGCTGCAAGGTCCCGCAGGAGGCGCTGCTCAAACTCCTGGCGGGACTGACGCGGCCG GACGTGCGGCCCCGCTGGGCCGGGCCTGGTGGGTGGCCAGGAAGAGGCGTCCCAGGAAGCCGGCCTGCCGGCA GGAGCGGGCCCCACCTTTCCAGCCCTGGGCATCGGGATGGACTCCTGCGTCATCCCCCTGAGGCACGGG GGCCTGTCACTGGTGCAGACCACGGACTTCTTTTACCCCTTGGTAGAAGATCCCTACATGATGGGGCGCATAGCT TGTGCCAACGTGCTGAGTGACCTCTACGCCATGGGGATTACTGAGTGTGACAACATGTTGATGTTACTCAGCGTC AGCCAGAGTATGAGTGAGGAGGAACGCGAAAAGGTAACGCCACTCATGGTCAAAGGCTTTCGGGATGCGGCTGAG GAAGGAGGGACGGCAGTGACCGGTGGCAAACGGTGGTCAACCCTTGGATTATAATCGGTGGAGTTGCCACTGTA GTATGCCAACCAAATGAGTTCATAATGCCGGACAGCGCCGTCGTTGGGGACGTGCTGGTGTTAACCAAACCGTTA GGAACCCAGGTTGCTGTCAATGCCCACCAATGGCTGGATAATCCTGAAAGATGGAATAAAGTAAAGATGGTGGTC TCCAGAGAGAGGTGGAGCTGGCCTATCAGGAAGCCATGTTCAATATGGCTACCCTCAACAGAACTGCTGCAGGT TTAATGCACACATTTAATGCCCATGCGGCCACAGATATCACAGGCTTTGGCATTCTAGGACACTCCCAGAACCTT GCAAAACAACAAGAAATGAAGTGTCCTTTGTTATTCATAATCTGCCAATAATTGCCAAGATGGCTGCCGTCAGC AAGGCCAGTGGACGGTTTGGGCTTCTTCAAGGAACCTCAGCTGAAACCTCTGGGGGGATTACTGATTTGTCTGCCA AGAGAACAGGCGGCTCGCTTTTGTTCTGAAATCAAATCCTCCAAGTACGGAGAGGGTCACCAAGCGTGGATCGTT GGCATTGTGGAAAAGGGAAACCGAACGGCCCGGATCATTGACAAGCCGCGAGTTATTGAAGTCCTGCCTCGTGGG ${\tt GCCACAGCTGCTGTTCTTGCTCCTGACAGTTCAAATGCCTCCTCTGAGCCTAGCTCG} {\tt TGA}{\tt GATGAAAGAACAGAA}$ GTTGTTTGGACCTTAGAGCCATTGTCCACAATCACGGATGGTTCTCAAGAGTTGATTGTAAGAAATTTCCAAAGA AGGCTGCCTGCATAGTGGTTCCGGCTGCCCTTTCTAGGTGATTGGAATCAGCCCATCTAAAGCAGTCTTTATATG CATTCCGAGGCCAGAGTAACATTTTGAACTTTGGGGGGGATATTTGTTCATCACTTGGGTAGAAGAGGAGCAAAAA TACTTCTGTTTTCTCTTGCCAAAGTAAGATGAAGCTATTCCAGGTTGAGGGATTTTTCTTTGCACGGGGTTGATT CAAATGAGTTTTGGACCAATATTGTTGATAAATCTAAATTGTTAAGAGAGATCTTATAATGCAACATCAAATTCT TTATTCAATTTTACTGAAGTACTGGCTCTTTCCTGCTCTGGACAAGAATTGAGCAACTTGTCTGATGACTGGGAA AGGAGGACCTGCAACCATCTGACTTGGTCTCTGTTAATGACGTCTCTCCCTCTAAACCCCCATTAAGGACTGGGAG AGGCAGAGCCAGAGCCCAGGCCTCAGTGGTCATTAAGATGTTAAGTCTTTTGCGGCAGATTCCTGGTGA AAA

GGSLGDGRLRRGDGSGGRLLGPGGLDSGPELLELPALRAPGVGPQPELAADGLLRHEGLRGCKVPQEALLKLLAG LTRPDVRPPLGRGLVGGQEEASQEAGLPAGAGPSPTFPALGIGMDSCVIPLRHGGLSLVQTTDFFYPLVEDPYMM GRIACANVLSDLYAMGITECDNMLMLLSVSQSMSEEEREKVTPLMVKGFRDAAEEGGTAVTGGQTVVNPWIIIGG VATVVCQPNEFIMPDSAVVGDVLVLTKPLGTQVAVNAHQWLDNPERWNKVKMVVSREEVELAYQEAMFNMATLNR TAAGLMHTFNAHAATDITGFGILGHSQNLAKQQRNEVSFVIHNLPIIAKMAAVSKASGRFGLLQGTSAETSGGLLICLPREQAARFCSEIKSSKYGEGHQAWIVGIVEKGNRTARIIDKPRVIEVLPRGATAAVLAPDSSNASSEPSS

4830/6881 FIGURE 4453A

CCTCTTTCACCCTGTCTAGGTTGCCAGCAAATCCCACGGGCCTCCTGACGCTGCCCCTGGGGCCACAGGTCCCTC GAGTGCTGGAAGGATGAAGGATTCCTGCATCACTGTGATGGCCATGGCGCTGCTGTCTGGGTTCTTTTTCTTCGC ATACCGCGTCCTGCAGGTCGGAAACGGGGTCATCGTGGGAGCTCCAGGGGAGGGGAACAGCACAGGAAGCCTCTA TCAGTGCCAGTCGGGCACAGGACACTGCCTGCCAGTCACCCTGAGAGGTTCCAACTATACCTCCAAGTACTTGGG AATGACCTTGGCAACAGACCCCACAGATGGAAGCATTTTGGCCTGTGACCCTGGGCTGTCTCGAACGTGTGACCA GAACACCTATCTGAGTGGCCTGTGTTACCTCTTCCGCCAGAATCTGCAGGGTCCCATGCTGCAGGGGCGCCCTGG TTTTCAGGAATGTATCAAGGGCAACGTAGACCTGGTATTTCTGTTTGATGGTTCGATGAGCTTGCAGCCAGATGA ATTTCAGAAAATTCTGGACTTCATGAAGGATGTGATGAAGAAACTCAGCAACACTTCGTACCAGTTTGCTGCTGT TCAGTTTTCCACAAGCTACAAAACAGAATTTGATTTCTCAGATTATGTTAAATGGAAGGACCCTGATGCTCTGCT GAAGCATGTAAAGCACATGTTGCTGTTGACCAATACCTTTGGTGCCATCAATTATGTCGCGACAGAGGTGTTCCG GGAGGAGCTGGGGGCCCGGCCAGATGCCACCAAAGTGCTTATCATCATCACGGATGGGGAGGCCACTGACAGTGG ${\tt CAACATCGATGCGGCCAAAGACATCATCCGCTACATCATCGGGATTGGAAAGCATTTTCAGACCAAGGAGAGTCA}$ ${\tt CATGGAGCTGTCCTCCAGCGGCATCAGTGCTGACCTCAGCAGGGCCATGCAGTCGTGGGGGCAGTAGGAGCCAA}$ GGACTGGGCTGGGGGCTTTCTTGACCTGAAGGCAGACCTGCAGGATGACACATTTATTGGGAATGAACCATTGAC ACCAGAAGTGAGAGCAGGCTATTTGGGTTACACCGTGACCTGGCTGCCCTCCCGGCAAAAGACTTCGTTGCTGGC ${\tt CCAGGTCCAGACCATGGGACCCAGATTGGCTCTTATTTCGGTGGGGAGCTGTGGCGTCGACGTGGACCA}$ AGATGGGGAGACAGAGCTGCTGATTGGTGCCCCACTGTTCTATGGGGAGCAGAGAGGAGGCCGGGTGTTTAT CTACCAGAGAAGACAGTTGGGGTTTGAAGAAGTCTCAGAGCTGCAGGGGGACCCCGGCTACCCACTCGGGCGGTT GGAGCAGGGGGCTGTGTACATCTTCAATGGGAGGCACGGGGGGCTTAGTCCCCAGCCAAGTCAGCGGATAGAAGG GGCAGATGTGGCTGTGGGGGCCTGAGAGCCAGATGATCGTGCTGAGCTCCCGGCCCGTGGTGGATATGGTCACCCT GATGTCCTTCTCCCAGCTGAGATCCCAGTGCATGAAGTGGAGTGCTCCTATTCAACCAGTAACAAGATGAAAGA AGGAGTTAATATCACAATCTGTTTCCAGATCAAGTCTCTCATCCCCCAGTTCCAAGGCCGCCTGGTTGCCAATCT AAGGAATATAGCTGTCACCACCAGCATGTCATGCACTGACTTCTCATTTCATTTCCCGGTATGTGTTCAAGACCT CATCTCCCCCATCAATGTTTCCCTGAATTTCTCTCTTTTGGGAGGAGGAAGGGACACCGAGGGACCAAAGGGCGCA GGGCAAGGACATACCGCCCATCCTGAGACCCTCCCTGCACTCGGAAACCTGGGAGATCCCTTTTGAGAAGAACTG TGCTTTTGCCAGCCTCTCTGTGGAGCTGAGCCTGAGTAACTTGGAAGAAGATGCTTACTGGGTCCAGCTGGACCT GCACTTCCCCCGGGACTCTCCTTCCGCAAGGTGGAGATGCTGAAGCCCCATAGCCAGATACCTGTGAGCTGCGA GGAGCTTCCTGAAGAGTCCAGGCTTCTGTCCAGGGCATTATCTTGCAATGTGAGCTCTCCCATCTTCAAAGCAGG CCACTCGGTTGCTCTGCAGATGATGTTTAATACACTGGTAAACAGCTCCTGGGGGGGACTCGGTTGAATTGCACGC CAATGTGACCTGTAACAATGAGGACTCAGACCTCCTGGAGGACAACTCAGCCACTACCATCATCCCCATCCTGTA CCCCATCAACATCCTCATCCAGGACCAAGAAGACTCCACACTCTATGTCAGTTTCACCCCCAAAGGCCCCAAAGAT TGTGGTTGGGGTGCCACAGCCTCCCAGCGAGGGGCCCATCACACACCAGTGGAGCGTGCAGATGGAGCCTCCCGT GCCCTGCCACTATGAGGATCTGGAGAGGCTCCCGGATGCAGCTGAGCCTTGTCTCCCCGGAGCCCTGTTCCGCTG $\verb|CCCTGTTGTCTTCAGGCAGGAGATCCTCGTCCAAGTGATCGGGGACTCTGGAGCTGGTGGGAGAGATCGAGGCCTC| \\$ TTCCATGTTCAGCCTCTGCAGCTCCCTCTCCATCTCCTTCAACAGCAGCATTTCCACCTCTATGGCAGCAA CGCCTCCCTGGCCCAGGTTGTCATGAAGGTTGACGTGGTGTATGAGAAGCAGATGCTCTACCTCTACGTGCTGAG GAAGGAGAAGATGGAGGCTGGCAGAGGTGTCCCGAATGGAATCCCTGCAGAAGACTCTGAGCAGCTGGCATCTGG GCAAGAGGCTGGGGATCCCGGCTGCCTGAAGCCCCTCCATGAGAAGGACTCTGAGAGTGGTGGTGGCAAGGACTG

4831/6881 FIGURE 4453R

AGTCCAGGCCTGTGAGGTGCAGAGTGCCCAGAACTGGACTCAGGATGCCCAGGGCCACTCTGCCTCTGCAT TCTGCCGTGTGCCCTCGGGCGAGTCACTGCCTCTCCCTGGCCCTCAGTTTCCCTATCTCGAACATGGAACTCATT ${\tt CCTGCCTGTCTCTTTGCAGGCTCATAGGGAAGACCTGCTGAGGGACCAGCCAAGAGGGCTGCAAAAGTGAGGGC}$ AAACTGTAGTCTCAGGACCTAGGGATGTTCTGGCCCTCACCCCTGCCCTGGGATGTCCACAGATGCCTCCACCCC ${\tt CCAGAACCTGTCCTTGCACACTCCCCTGCACTGGAGTCCAGTCTCTTCTGCTGGCAGAAGCAAATGTGACCTGT}$ GTCACTACGTGACTGTGGCACACGCCTTGTTCTTGGCCAAAGACCAAATTCCTTGGCATGCCTTCCAGCACCCTG CAAAATGAGACCCTCGTGGCCTTCCCCAGCCTCTTCTAGAGCCGTGATGCCTCCCTGTTGAAGCTCTGGTGACAC CAGCCTTTCTCCCAGGCCAGGCTCCTTCCTGTCTTCCTGCATTCACCCAGACAGCTCCCTCTGCCTGAACCTTCC ACTTCCACCAGCCTGCACTACTCCCTCAAAGCACACGTCATGTTTCTTCATCCGGCAGCCTGGATGTTTTTTCCC TGTTTAATGATTGACGTACTTAGCAGCTATCTCTCAGTGAACTGTGAGGGTAAAGGCTATACTTGTCTTGTTCAC CTTGGGATGATGCCTCATGATATGTCAGGGCGTGGGACATCTAGTAGGTGCTTGACATAATTTCACTGAATTAAT GACAGAGCCAGTGGGAAGATACAGAAAAAGAGGGGCTGGGCTGGGCGGGTGGTTCACGCCTGTAATCCCAGCAC TTTGGGAGGCCAAGGAGGTGGATCACCTGAGGTCAGGAGTTAGAGGCCAGCCTGGCGAAACCCCATCTCTACTA AAAATACAAAATCCAGGCGTGGTGGCACACACCTGTAGTCCCAGCTACTCAGGAGGTTGAGGTAGGAGAATTGCT TGAACCTGGGAGGTGGAGGTTGCAGTGAGCCAAGATTGCGCCATTGCACTCCAGCCTGGGCAACACAGCGAGACT CCGTCTCAAGGAAAAAATAAAAATAAAAAGCGGGCACGGGCCCGTGACATCCCCACCCTTGGAGGCTGTCTTCTC ${\tt AGGCTCTGCCCTAGCTCCACACCCTCTCCCAGGACCCATCACGCCTGTGCAGTGGCCCCCACAGAAAGAC}$ TGAGCTCAAGGIGGGAACCACGTCTGCTAACTIGGAGCCCCAGTGCCAAGCACAGTGCCTGCATGTATTTATCCA ATAAATGTGAAATTCTGTCC

CGCGCTGGAGAGGCGCGGGGTCAAGACGTCCGGCCTCGGGGGCCCGGGCTGGGCCGCCGAGTCCCCTGGGCGGCG CGCCGCTGCACTGGGAGCCCGCGGGGATGGAGCGGGAGGCGTTGCCGTGGGGCCCTCGAGCCCCAGGATGTGCAGA AGCAAGAAGGCAGTGGGGACTATGAAGTCGAAGAGATACCATTTGGGCTTGAACCCCAGAGCCCTGGGTTTGAGC CACAAAGCCCAGAGTTTGAACCCCAAAGCCCCAGATTTGAGCCTGAAAGCCCGGGGTTTGAGTCCCGAAGCCCTG GGCTTGTGCCCCCAAGCCCTGAGTTTGCACCCAGAAGCCCTGAATCAGATTCTCAGAGCCCTGAGTTTGAATCCC AGAGCCCTAGGTATGAACCCCAAAGCCCTGGCTATGAACCTCGGAGCCCCGGGTATGAACCCCGGAGCCCTGGCT ATGAATCTGAGAGCTCTAGATATGAATCCCAGAACACTGAGCTCAAAACCCCAAAGCCCAGAATTTGAAGCTCAAA GTTCCAAATTCCAGGAAGGTGCGGAGATGCTTCTGAACCCCGACGAAAAGAGTCCTTTGAATATCTCCGTAGGAG TTCACCCCTGGACTCCTTCACTCAGGGGTTTGGGGAGCAGCCCACAGGGGACCTGCCCATAGGGCCACCTTTTG AGATGCCCACAGGGGCCCTGCTGTCTACACCGCAGTTTGAGATGCTTCAGAATCCCCTGGGTCTCACAGGAGCCC TTCGAGGTCCAGGTCGGCGGGGTGGCCGGGCCAGGGGTGGGCAGGGCCCTCGGCCTAACATCTGCGGCATCTGCG GGAAGAGCTTCGGGCGGGGCTCCACCCTGATCCAGCACCAGCGCATCCACACCGGTGAGAAGCCCTACAAATGTG AGGTCTGCAGCAAGGCCTTCTCCCAGAGCTCTGACCTCATCAAACACCAGCGCACCCACACTGGCGAGCGGCCCT AGAAGCCCTACAAGTGCCCACATTGTGGCAAGGCCTTCGGCGACAGCTCCTACCTCCTGCGACACCAGCGCACCC ACAGCCACGAGCGCCCTACAGCTGCACCGAGTGCGGCAAGTGCTATAGCCAGAACTCGTCCCTGCGCAGCCATC AGAGGGTGCACACCGGTCAGAGGCCCTTCAGCTGTGGCATCTGCGGCAAGAGCTTCTCCCCAGCGGTCGGCCCTTA TCCCCCATGCCCGCAGCCACGCCCGGGAGAAGCCCTTCAAGTGCCCTGAGTGCGGCAAGCGCTTTGGCCAGAGCT CGGTGCTGGCCATCCACGCCCGCACCCACCTGCCAGGCCGCACCTACAGCTGCCCCGACTGCGGCAAGACCTTCA ATCGCTCCTCCACTCTCATCCAGCACCAGCGCTCCCACACGGGCGAGCGGCCCTACAGGTGCGCCGTGTGCGGCA AGGGCTTCTGCCGCTCCTCCACGCTTCTGCAGCATCACCGGGTCCACAGTGGCGAGCGGCCTTACAAGTGCGATG ACTGCGGAAAGGCCTTCTCCCAGAGCTCCGACCTCATCCGCCACCAGCGGACCCACGCGGCGGGCCGGCGCTGAC CTGGGGCCCCAGCAGGGTGGGAGGTGTGGGCAGAAGATAAGGGGCCCAGGGAGCTAGAGGAACCTTTAGGGAGGA TAGTGGAGAAGCCGCAGGAGAATGGAGGAGCTGAGGATGCTGGAAGAAGAACCAGGGTGGAGGAAGTGACATG CCCTGGAGACTTGTGGGAAGTGGGTTGGAGGGGGGGGCCAGGCCGGGAGGGCCCTGGGAGAAATGGAGAGA GAGGGCAGGGGATTACCTAATTAGAGTGGGTTAGCTTAGATTGGTAGCTGCTGAAACTCTCGTTGAGTCAGGAGC GGGTAAAAGGTAGGTGGGGTGGGGAGTGGGGCCCCGGGGTGGGGCCTCTGCGTGCAAACCCCAGCCTCC

MRSPEGYLRGNMSENEEEEISQQEGSGDYEVEEIPFGLEPQSPGFEPQSPEFEPQSPRFEPESPGFESRSPGLVP PSPEFAPRSPESDSQSPEFESQSPRYEPQSPGYEPRSPGYEPRSPGYESESSRYESQNTELKTQSPEFEAQSSKF QEGAEMLLNPDEKSPLNISVGVHPLDSFTQGFGEQPTGDLPIGPPFEMPTGALLSTPQFEMLQNPLGLTGALRGP GRRGGRARGGQGPRPNICGICGKSFGRGSTLIQHQRIHTGEKPYKCEVCSKAFSQSSDLIKHQRTHTGERPYKCP RCGKAFADSSYLLRHQRTHSGQKPYKCPHCGKAFGDSSYLLRHQRTHSHERPYSCTECGKCYSQNSSLRSHQRVH TGQRPFSCGICGKSFSQRSALIPHARSHAREKPFKCPECGKRFGQSSVLAIHARTHLPGRTYSCPDCGKTFNRSS TLIQHQRSHTGERPYRCAVCGKGFCRSSTLLQHHRVHSGERPYKCDDCGKAFSQSSDLIRHQRTHAAGRR

4834/6881 FIGURE 4456

GGCACGAGGCTTTCTCGGGCGCAGGAGGTTCCGCAGGCCAGGCCAGGCCAGGCGAGGCAGCCGATCCGTCGTCG GGGTTGACAGTTACCATGGCCCGCCTCTGGCCCCGCTCCCCCGGGACCCAAACGGGGCCGGACCCGAGTGG AGGGAGCCGGGGGCTGTGAGCTTCGCGGACGTGGCCGTGTACTTCTGCCGGGAGGAGTGGGGCTGCTTGCGGCCA GCGCAGAGGGCCCTGTACCGGGACGTGATGCGGGAGACCTACGGCCACCTGAGCGCTCTCGGAATCGGAGGCAAC AAGCCAGCTCTCATCTCCTGGGTGGAGGAGGAGGCCGAACTGTGGGGTCCGGCTGCCCAGGATCCGGAGGTGGCG AAATGTCAGACACAAACGGACCCAGCAGATTCCAGAAACAAGAAAAAGGAAAGACAAAGGGAAGGGACGGGACGGAGCC GCTGACCAGCGTCATGGCTGCTACGTGTGCGGGAAGAGCTTTGCCTGGCGCTCCACACTGGTGGAGCACGTCTAC AGTCACACTGGCGAGAAGCCCTTCCACTGCACTGACTGCGCCAAGGGCTTCGGCCACGCTTCCTCCCTGAGCAAA CACCGGGCCATCCATCGTGGGGAGCGGCCCCACCGCTGTCTGGAGTGTGGCCGGGCCTTCACGCAGCGCTCGGCG CTGACTTCGCACCTGCGCGTCCACACCGGCGAGAAACCCTATGGCTGCGCCGACTGTGGCCGCCGCTTCAGCCAG AGCTCTGCCCTCTACCAGCACCGGCGCGTGCACAGCGGGGGAGACCCCCTTCCCCTGCCCGGACTGTGGCCGCGCC TTCGCCTACCCCTCGGACCTGCGCGCCACGTGCGCACCCACACCGGCGAGAAGCCCTACCCGTGCCCGGACTGC GGGCGCTGCTTCCGCCAGAGCTCGGAGATGGCAGTCCACAGGGCGCACCCACAGCGGCGAGAAGCCCTACCCCTGC $\tt CCGCAGTGCGGCCGCTTTGGCCAGAAGTCAGCCGTGGCCAAACACCAGTGGGTTCATCGGCCCGGGGCCGGG$ GGCCACAGGGGCCGGGTCGCCGGGCGTCTGTCTGTGACCCTGACCCCTGGCCACGGAGACCTGGACCCGCCGTG GGCTTCCAGCTGTACCCGGAGATATTCCAGGAGTGTGGGTGACGCCCTTAAAAGTGACTATCTAGACATTACGGG AGGCCCGAGATGGGCTCAGGGGCCCGAACCTCTGCGGCGGCCTGCAGGGAGGTCCCAGAATCTAGGGCAAGAGCT GGCCCTGGGGTGCGGACAGTCTGATCTTGGGCCCTTAGCAGCCTCCTCTGCCAGCACCTTGCTCCCCACTGCCCA GGGCTCTCCAAGGCCCCTCTACTGAGGCAGGGCTGAGTTGAGAACCCCCAGACCTACATAAGGGGAACCAAAAG CTGTTTCTCAGCCCAGAGGTGCTAAGAGGACTGAGGTAGAGGAGAACCTTGTTTTACCCATTGTCTTTTTAAATT TTTCTGAGACAGCTTCCTGCTCTGTCACCCAGGCTGGAGTGCAGTGTGTAACAGGGCTAACTGCAGCCTCAAC CTGCAGTGCTCAAGGAATCCTCTCCCATCAGCCTTCCAAATATCTGAGACTACAGGCGGGCAACACTACGGCCAG CTAATTTTTAAATTTTACATAGAGATGAGGTTCTCACTGTTGTCCAGGCTGGTCTCAAACTCCTTGGCTGAAGTG ATCCTGTCGTCTCGGCTTCCGCAAGTGCTGGGATTACAGGCGTGAGCTACCACCATGCCTGGCTTCCATTGTCTT TGTGTGTGTGTGTGTGTGATGGGGTTTTGCTCTTGTTGCCCAGGCTGGAGTGCAATAGCGCAATCTCAGCTCACT ACCTCCATTGTCTTTTTACTGCCCAAGTTAAAATCCTGTGACTGTACTGGATCTGGCCTGCGGTTGTCATATT TATTGATCTGAGTCCAGGCAGTGTTTTTAAGTGATATGAGTTAGTAGTGAAAATTGAAAAGGATATTTTACAACC AAATACAGGTTTTCTGGTGTCTTTTGAAAAATCCAAAGATTTGGCAACTCGACCTAGGCTCCGACAAAACCACAG TTGTTGGGAGCTGAGCCGGAGCCAGAACTCACAATTCACCGTGGCCCGGCCACCCATCCCCACCACTCCCGTGGG AAGAAGAAAGGGAAGTATTTCTTAGACCCATGTCTCTGTCCAAATAGGCCTTTCCATCTGGCATTTCCCGCTCAT TTATATGACTTGCTGAGTTCCTATGGTCATTTGAGTTTGCAAACAGTGGTCTGTAGCACTCAGGTTTTCTGGAGT

MAPPLAPLPPRDPNGAGPEWREPGAVSFADVAVYFCREEWGCLRPAQRALYRDVMRETYGHLSALGIGGNKPALI SWVEEEAELWGPAAQDPEVAKCQTQTDPADSRNKKKERQREGTGALEKPDPVAAGSPGLKSPQAPSAGPPYGWEQ LSKAPHRGRPSLCAHPPVPRADQRHGCYVCGKSFAWRSTLVEHVYSHTGEKPFHCTDCGKGFGHASSLSKHRAIH RGERPHRCLECGRAFTQRSALTSHLRVHTGEKPYGCADCGRRFSQSSALYQHRRVHSGETPFPCPDCGRAFAYPS DLRRHVRTHTGEKPYPCPDCGRCFRQSSEMAVHRRTHSGEKPYPCPQCGRRFGQKSAVAKHQWVHRPGAGGHRGR VAGRLSVTLTPGHGDLDPPVGFQLYPEIFQECG

CTGGGGATCTACGCTGAGTTCGGAGATGCTCCAGCTCGGGCCCCCTGTCTGAGCGGAGCTTTGCGGCGCTGAA GCTTACAGGGGAAGGAAAAGCCTCGCCCGGCGTCTGATTGGCGGAACCGCGCTGCCGCAGCCTGGGATTCCCCAG ${\tt GGACCCCCCGGAGCCGCCGCGTCTCCC} \underline{{\tt ATG}} {\tt GACTTGCCCGGGGGACTCCAGCCCGCCTGGCCAGCCGCGTCTGTG}$ CCGCCAGCCTCTGACTCGAGCATTATGGGGAGCCAGGAGCCCGAAACGGCCGAGGCTGCAGCTCCCGGGGGCCCC TTCTCCCCTGGAAAAGGCCTCTCGGCGGGTCCTGGCCGTGGTGCTAGAAGATGTCATGGCTGTTCACATGGTCCC CGTGGTGCCCTCAAAGCAGACCTCCATACCACAGCACCACAGCTACCATCAGGATCCTGTCCACAGGCAGCCGCC TGCCTCGCCACCCCGGCAGGCCGGGTGGTCCTCGCAGGCCAGGCCTCCCGACCCTCTGTGTTTGTGTCGCGAGCC CTTGAGCCGCATCCACCGGACCTCTTCCACCCTGAGGCGGCGATCAAGGACAACCCCTGGCCCAGAGGAGGGCCC TTCACAAAAGGTGGACCGGGCCCCCAGCCCACCCTGGTGGTGATGCTGGAAGACATCGCCAGTCCTAGACCCCC CGCTGAGGGCTTCATTGATGAGACCCCCAACTTCATCATCCCAGCACAAAGAGCTGAGCCCATGAGGATAGTTCG CCCACCAACAGCCCCAGATCCTGCTCTGGAGCTCCCATCCACCCCACCACCGTCCAGCCTTTTACGCCCCCGCCT CAGTCCCTGGGGCTTGGCCCCGCTCTTCCGTTCCGTCCGCTCCAAGCTGGAGAGCTTTGCTGACATCTTCCTCAC GCCCAACAAAACCCCACAGCCCCCACCCCGTCCCCCCAATGAAGCTGGAGTTGAAGATCGCCATCTCAGAGGC CGAGCAGTCTGGGGCTGCTGAGGGCACTGCGTCTGTCAGCCCCCGGCCCCCAATCCGCCAGTGGCGAACTCAGGA CCACAATACCCCAGCACTTCTCCCTAAGCCCTCTCTGGGGCCGAAGCTACTCCTGCCCTGATCTGGGGCCCCCTGG TGGGGAAATGGCCCGAGCCCCGCCACCCCCTCGGCCCTGTCTCCGGAAAGAGGTCTTCCCTCTCGGAGGAGTGGG GGGTTCAACCAAAGGGAAGGAGCCAAGAGCCTCAAAGGACCAGGTGCTTTCAGAACCTGAGACCAAGACCATGGG AAAGGTTTCTCGATTCAGAATACGCAGAACACCAGCCCGTCCTCAGCTAAACCTTACACCAATGGGACTGCCTCG ACCAATCAGGTTGAACAAGAAGGAGTTCAGCTTGGAAGAAATTTACACCAACAAGAATTACCAATCACCCACAAC CAGGAGGACCTTTGAGACCATCTTTGAGGAACCCCGGGAGCGCAATGGGACTCTGATTTTCACCAGCTCAAGGAA GCTCCGGCGGGCTGTGGAATTTCGGGACAGCAGCCTTCCTCGATCACGAAGACCGTCCCGTGGGGTCCGGGCTGC AGGGGGCAGGACTGTTCCTCCCAATGTGGCCCCCAGCCCTGATGTGGGCCCCCTGCTCCAGCAGCGGCTGGAGGA ${\tt GCTAGATGCCTTGCTCCTGGAGGAAGAACAGTAGATCGGGAGCAGCCCCACTGGACC} {\tt TAG} {\tt GTGCCCCATCTGTT}$

MDLPGDSSPPGQPRLCRQPLTRALWGARSPKRPRLQLPGAPSPLEKASRRVLAVVLEDVMAVHMVPVVPSKQTSI
PQHHSYHQDPVHRQPPASPPRQAGWSSQARPPDPLCLCREPLSRIHRTSSTLRRRSRTTPGPEEGPSQKVDRAPQ
PTLVVMLEDIASPRPPAEGFIDETPNFIIPAQRAEPMRIVRQPTPPPGDLEPPFQPSALPADPLESPPTAPDPAL
ELPSTPPPSSLLRPRLSPWGLAPLFRSVRSKLESFADIFLTPNKTPQPPPPSPPMKLELKIAISEAEQSGAAEGT
ASVSPRPPIRQWRTQDHNTPALLPKPSLGRSYSCPDLGPPGPGTCTWPPAPPQPSRPRRRHTVGGGEMARAPPP
PRPCLRKEVFPLGGVGASPSLTTSCSSTASTSFSEPAEPRLGSTKGKEPRASKDQVLSEPETKTMGKVSRFRIRR
TPARPQLNLTPMGLPRPIRLNKKEFSLEEIYTNKNYQSPTTRRTFETIFEEPRERNGTLIFTSSRKLRRAVEFRD
SSLPRSRRPSRGVRAAGGRTVPPNVAPSPDVGPLLQQRLEELDALLLEEETVDREQPHWT

4838/6881 FIGURE 4460A

GCTAGGCTGACCCTCCTGCAGGTGACGGAAGTACCGCCTCCCGTTTGACGCCCCTCAGGGGACCCTGCATCG CTCCAGCCGCCGCGCCATGTCTGGGCCAGGCAACAAACGCGCCGCCGGCGACGGGGGCTCAGGGCCCCCGGAAA AGAAGCTGAGTCGTGAGGAGAAGACCACCACGACTCTTATCGAGCCCATTCGTCTTGGAGGCATCTCTTCCACGG AGGAGATGGACCTGAAGGTACTACAGTTCAAGAACAAGAAACTGGCAGAGCGGCTGGAACAACGGCAGGCTTGTG AAGATGAACTCCGAGAACGAATTGAGAAGTTGGAGAAGCGGCAGGCCACAGATGATGCCACACTCCTCATCGTCA ATCGCTACTGGGCCCAGCTGGATGAAACTGTGGAAGCCCTTCTCCGATGCCATGAGAGCCAGGGGGAGCTGTCTT CAGCGCCTGAGGCACCTGGGACCCAGGAGGGGCCAACATGTGATGGGACTCCTCTCCCAGAGCCGGGGACATCAG AGCTGAGAGACCCCTTGCTGATGCAGCTGCGGCCCCCTCTCAGTGAGCCGGCCTTGGCTTTTTGTGGTGGCACTGG GTGCCAGCAGCAGTGAGGAGGTGGAGCTGGAGCTGCAAGGCCGAATGGAGTTCTCCAAGGCAGCTGTGTCTCGTG TGGTAGAGGCCTCAGACCGCCTACAGCGCCGGGTGGAGGAACTCTGTCAGCGAGTGTACAGCCGAGGGGACAGTG AGCCCCTCAGTGAGGCGGCTCAGGCACACCCCGAGAGCTGGGCCGTGAGAACCGGCGACTGCAGGACTTGGCCA CTCAGCTGCAGGAGAAACACCACCGCATCTCATTGGAGTACTCCGAGCTCCAGGATAAAGTGACATCGGCAGAGA CCAAGGTGCTGGAGATGGAGACAACAGTGGAGGACTTGCAGTGGGACATCGAGAAGCTGCGGAAGCGAGAGCAAA AGCTCAATAAGCACCTGGCAGAGGCCTTAGAGCAGCTTAACTCTGGCTACTATGTATCTGGGAGCTCCTCAGGCT TCCAGGGGGGCCAGATCACACTCAGCATGCAGAAGTTTGAGATGCTGAATGCAGAGTTAGAGGAAAACCAGGAAC TGGCCAACAGCCGTATGGCAGAGCTGGAGAAACTGCAGGCCGAACTTCAGGGGGGCTGTGCGGACCAATGAGCGCC TCAAGGTGGCCCTGCGGAGCCTTCCTGAGGAGGTAGTGCGGGAGACGGGGGAGTACCGCATGCTGCAGGCCCAAT TCTCACTGCTCTACAACGAGTCTCTGCAAGTGAAGACCCAGCTAGACGAGGCTCGGGGCCTGCTGCTGGCCACAA AGAACTCCCACCTGCGACACATCGAGCACATGGAGAGCGACGAGCTGGGGGCTGCAGAAGAAGCTACGCACAGAGG TCATTCAGCTGGAGGACACGCTGGCCCAGGTACGCAAGGAGTATGAGATGCTGCGCATCGAGTTTGAGCAGAATC TGGCGGCCAACGAGCAGGCGGGCCCATCAACCGTGAGATGCGCCACCTGATTAGTAGTCTTCAAAACCACAACC ACCAGCTAAAAGGGGACGCCCAGCGATACAAGCGGAAGCTTCGAGAAGTACAAGCTGAGATTGGCAAGCTCCGGG CCCAGGCCAGTGGCTCTGCCCACTCCACCCCAACCTGGGCCACCCAGAGGATTCTGGCGTCAGTGCCCCAGCCC CAGGGAAAGAGGGGGGGCCAGGCCCTGTCAGTACCCCCGACAACAGAAAGGAGATGGCTCCAGTGCCTGGCA CCACCACTACTACCACTTCAGTGAAGAGGAGGAGCTGGTCCCCTCTGAAGAGGACTTCCAGGGTATAACCCCTG GGGCCCAGGGCCCTTCCTCCCGGGGCCGAGAACCTGAGGCCAAGCGGGAGGCTTCAGGAACGGGAAGGTC CCAGCCTAGGACCTCCACCTGTAGCCTCCGCTCTCTCAAGGGCTGATCGGGAGAAGGCCAAGGTGGAAGAAACCA AGCGGAAGGAATCAGAACTCCTCAAGGGTCTCCGAGCAGAGGCTCAAGAAGGCCCAGGAGAGCCAGAAGGAGATGA AACTGCTGCTGGATATGTACAAGTCAGCGCCCAAGGAGCAGCGGGATAAGGTGCAGCTCATGGCAGCGGAACGCA AGGCTAAGGCCGAGGTTGATGAGCTGCGGAGCCGCATCCGGGAATTGGAGGAGAGGGATCGAAGGGAGAGCAAGA AACAGAACGGGCGGCTGCTACAGCAGTTGCGGGAAAAGGATGATGCCAACTTTAAGCTAATGTCAGAGCGGATCA AGGCCAACCAGATTCACAAGCTGCTGCGGGAGGAGAAGGATGAGTTGGGCGAGCAGGTCCTTGGCCTCAAGTCCC TGGAGAAGGAGCTGACGCTGCGCAGCCAAGCCCTGGAGCTCAACAAGCGGAAGGCTGTAGAAGCCGCCCAGCTGG GGGCTGCTCGTGAGAAAGAGAGCTTCAACCTCAAGAGGGCTCAGGAGGACATCTCACGGCTGCGGCGCAAGCTGG AAAAGCAGAGGAAGGTGGAGGTCTACGCAGATGCCGACGAAATCCTCCAGGAGGAGATCAAGGAGTACAAGGCGC GGTTGACCTGCCCTGCTGTAACACCCGCAAGAAGGATGCAGTCCTTACCAAGTGCTTCCACGTTTTCTGCTTCG AGTGCGTGCGGGCCGCTATGAGGCCCGCCAGAGGAAGTGCCCCAAGTGCAACGCGGCCTTTGGTGCCCACGACT TCCATCGTATCTACATCAGCTGAACCTGAAACTCAGGGGACTCTGGAACACCATGGACCCTGGGGGCTGTGCCCC CATCTCCTCCCCACCCAGGTCTAGTGGCCCCACCCTCCATTCCGGACCCCATGGGCCCAGCCCTGCCCATCTA GTTGGTTTGGGGACCCTGGTGCATGCTAGTGGGCATGGGATCAGCCAAGCTTCGTTCCATCTTTTCCTAAAGGTC AGAGCTGCAGCCTAGGGGGCACTGCCCTACAGAAAAGGTCTGCCTGAGAGGCCCTGAGGAGCCCAGAGCACTTGAC TGAGCTTCCCGGAAACTGGCCCTAACCTGTCTCTCTCTCGTGGATGCATCCTAACCCTAAGGAAAATTCCCCAGGC TGTGATCTACCCTAGAGAAGGCTCGCTCCCTGCCTACTGGCTCACAAATGAGGACCAGTGAGCCATGTCCTTGTT

4839/6881 FIGURE 4460B

4840/6881 FIGURE 4461

4841/6881 FIGURE 4462

GGGCGCAGGCGGCTGGCGAGTGGACTGTTCGAGCCCTTCCGCTGGGACCCGGGCCCTGGCTCCGGCC CCGCGATGGGAGCTGCTCCCGCGGGCTGAGCCTGTCAGCATCCTCGACGCACCCTGGTCCCTGAAGTCGGAGAA GAGCCCTACCCACCCCACACCCCCTTGCCCCATTTTGGGTCGCCTGGGTCCTCAGTCCTAGCGGATCCTCAGTCC TTCCGCTCCGGCCCCTCCTGGGACCCGCACTCGCGCTCCGGGCCCGCTCGACGTCGGCCACCGACACACCACG TGGAGATGGCTCGGGAGCGCTCCAAGACCGTCACCTCCTTTTACAACCAGTCGGCCATCGACGCGGCAGCGGAGA AGCCCTCAGTCCGCCTAACGCCCACCATGATGCTCTACGCTGGCCGCTCTCAGGACGGCAGCCACCTTCTGAAAA TCATTGGCTGCAACCCCACCATACTGCACGTGCATGAGCTATATATCCGTGCCTTCCAGAAGCTGACAGACTTCC CTCCGATCAAGGACCAGGCCGACGACCCCAGTACTGCCAGCTGGTGCGACAGCTGCTGGATGACCACAAGGATG TGGTGACCCTCTTGGCAGAGGGCCTACGTGAGAGCCGGAAGCACATAGAGGATGAAAAGCTCGTCCGCTACTTCT TGGACAAGACGCTGACTTCGAGGCTTGGAATCCGCATGTTGGCCACGCATCACCTGGCGCTGCATGAGGACAAGC GCCTGTGTGAGCACAAGTATGGCAATGCGCCCCGTGTCCGCATCAATGGCCATGTGGCTGCCCGGTTCCCCTTCA TCCCTATGCCACTGGACTACATCCTGCCGGAGCTGCTCAAGAATGCCATGAGAGCCACAATGGAGAGTCACCTAG ACACTCCCTACAATGTCCCCAGATGTGGTCATCACCATCGCCAACAATGATGTCGATCTGATCATCAGGATCTCAG ACCGTGGTGGAGGAATCGCTCACAAAGATCTGGACCGGGTCATGGACTACCACTTCACTACTGCTGAGGCCAGCA CACAGGACCCCGGATCAGCCCCCTCTTTGGCCATCTGGACATGCATAGTGGCGCCCAGTCAGGACCCATGCACG GCTTTGGCTTCGGGTTGCCCACGTCACGGGCCTACGCGGAGTACCTCGGTGGGTCTCTGCAGCTGCAGTCCCTGC ${\tt AGGGCATTGGCACGGACGTCTACCTGCGGCTCCGCCACATCGATGGCCGGGAGGAAAGCTTCCGGATC\underline{TGA}CCCC}$ CTGCCTCAACAGGGTCCATTGCCTCCTCGCCTCCAGAACTTGGAGCAGGGAAGTGGGCACCCTGAGGCCTCCAGC ACCAGTTCCGTCATTCTCGTTCCTGGGGAACCCCCACTCTGACCTGTTATTAAAGTTCACATTTTGAATGCCCTC TCGGGCCCCGTGTGTGGGGAGGGCAGGTG

MILASVLRSGPGGGLPLRPLLGPALALRARSTSATDTHHVEMARERSKTVTSFYNQSAIDAAAEKPSVRLTPTMM LYAGRSQDGSHLLKSARYLQQELPVRIAHRIKGFRCLPFIIGCNPTILHVHELYIRAFQKLTDFPPIKDQADEAQ YCQLVRQLLDDHKDVVTLLAEGLRESRKHIEDEKLVRYFLDKTLTSRLGIRMLATHHLALHEDKPDFVGIICTRL SPKKIIEKWVDFARRLCEHKYGNAPRVRINGHVAARFPFIPMPLDYILPELLKNAMRATMESHLDTPYNVPDVVI TIANNDVDLIIRISDRGGGIAHKDLDRVMDYHFTTAEASTQDPRISPLFGHLDMHSGAQSGPMHGFGFGLPTSRA YAEYLGGSLQLQSLQGIGTDVYLRLRHIDGREESFRI

TATTCCCAGCAGAGCAGTCAGCCCTACGGACAGCAGAGTTACAGTGGTTATAGCCAGTCCACGGACACTTCAGGC TATGGCCAGAGCAGCTATTCTTCTTATGGCCAGAGCCAGAACACAGGCTATGGAACTCAGTCAACTCCCCAGGGA TATGGCTCGACTGGCGGCTATGGCAGTAGCCAGAGCTCCCAATCGTCTTACGGGCAGCAGTCCTCCTACCCTGGC TATGGCCAGCAGCCAGCAGCACCTCGGGAAGTTACGGTAGCAGTTCTCAGAGCAGCAGCTATGGGCAG CCCCAGAGTGGGAGCTACAGCCAGCCAGCCTAGCTATGGTGGACAGCAAAGCTATGGACAGCAAAGCTAT AATCCCCCTCAGGGCTATGGACAGCAGAACCAGTACAACAGCAGCAGTGGTGGAGGTGGAGGTGGAGGTGGA GGTAACTATGGCCAAGATCAATCCTCCATGAGTAGTGGTGGTGGCAGTGGTGGCGGTTATGGCAATCAAGACCAG AGTGGTGGAGGTGGCAGCGGTGGCTATGGACAGCAGCACCGTGGAGGCCGCGGCAGGGGTGGCAGTGGTGGCGGC GGCGGCGGCGGCGGTGGTTACAACCGCAGCAGTGGTGGCTATGAACCCAGAGGTCGTGGAGGTGGCCGTGGA GGCAGAGGTGGCATGGGCGGAAGTGACCGTGGTGGCTTCAATAAATTTGGTGGCCCTCGGGACCAAGGATCACGT CATGACTCCGAACAGGATAATTCAGACAACAACACCATCTTTGTGCAAGGCCTGGGTGAGAATGTTACAATTGAG TACACAGACAGGGAAACTGGCAAGCTGAAGGGAGAGGCAACGGTCTCTTTTGATGACCCACCTTCAGCTAAAGCA GCTATTGACTGGTTTGATGGTAAAGAATTCTCCGGAAATCCTATCAAGGTCTCATTTGCTACTCGCCGGGCAGAC TTTAATCGGGGTGGTGGCAATGGTCGTGGAGGCCGAGGGCGAGGACCCATGGGCCGTGGAGGCTATGGAGGT GGTGGCAGTGGTGGTGGCCGAGGAGGATTTCCCAGTGGAGGTGGTGGCGGTGGAGGACAGCAGCGAGCTGGT ${\tt CCTAAACCAGATGGCCCAGGAGGGGGACCAGGTGGCTCTCACATGGGGGGTAACTACGGGGGATGATCGTCGTGGT}$ GGCAGAGGAGGCTATGATCGAGGCGGCTACCGGGGCCGCGGGGGACCGTGGAGGCTTCCGAGGGGGCCGGGGT $\texttt{CCGTAT} \underline{\textbf{TAA}} \\ \texttt{TTAGCCTGGCTCCCCAGGTTCTGGAACAGCTTTTTGTCCTGTACCCAGTGTTACCCTCGTTATTTT} \\$ GTAACCTTCCAATTCCTGATCACCCAAGGGTTTTTTTTGTGTCGGACTATGTAATTGTAACTATACCTCTGGTTC CCATTAAAAGTGACCATTTTAGTT

ATGCCAAGGTCAGGGGCTCCCAAAGAGCGCCCTGCGGAGCCTCTCACCCCTCCCCCATCCTATGGCCACCAGCCA CAGACAGGGTCTGGGGAGTCTTCAGGAGCCTCGGGGGACAAGGACCACCTGTACAGCACGGTATGCAAGCCTCGG TCCCCAAAGCCTGCAGCCCCGGCGGCCCCTCCATTCTCCTCTTCCAGCGGTGTCTTGGGTACCGGGCTCTGTGAG CTAGATCGGTTGCTTCAGGAACTTAATGCCACTCAGTTCAACATCACAGATGAAATCATGTCTCAGTTCCCATCT AGCAAGGTGGCTTCAGGAGAGCAGAAGGAGGACCAGTCTGAAGATAAGAAAAGACCCAGCCTCCCTTCCAGCCCG TCTCCTGGCCTCCCAAAGGCTTCTGCCACCTCAGCCACTCTGGAGCTGGATAGACTGATGGCCTCACTCTCTGAC TTCCGCGTTCAAAACCATCTTCCAGCCTCTGGGCCAACTCAGCCACCGGTGGTGAGCTCCACAAATGAGGGCTCC CCATCCCCACCAGAGCCGACTGGCAAGGGCAGCCTAGACACCATGCTGGGGCTGCTGCAGTCCGACCTCAGCCGC CGGGGTGTTCCCACCCAGGCCAAAGGCCTCTGTGGCTCCTGCAATAAACCTATTGCTGGGCAAGTGGTGACGGCT $\tt CTGGGCCGCCCTGGCACCCCGAGCACTTCGTTTGCGGAGGCTGTTCCACCGCCCTGGGAGGCAGCAGCTTCTTC$ GAGAAGGATGGAGCCCCCTTCTGCCCCGAGTGCTACTTTGAGCGCTTCTCGCCAAGATGTGGCTTCTGCAACCAG $\tt CCCATCCGACACAGATGGTGACCGCCTTGGGCACTCACTGGCACCCAGAGCATTTCTGCTGCGTCAGTTGCGGG$ CAGCCCTTCGGAGATGAGGGTTTCCACGAGCGCGAGGGCCCCCTACTGCCGCCGGGACTTCCTGCAGCTGTTC GCCCCGCGCTGCCAGGGCCCCAGGGCCCCATCCTGGATAACTACATCTCGGCGCTCAGCGCGCTCTGGCACCCG GACTGTTTCGTCTGCAGGGAATGCTTCGCGCCCTTCTCGGGAGGCAGCTTTTTCGAGCACGAGGGCCGCCCGTTG TGCGAGAACCACTTCCACGCACGACGCGGCTCGCTGTGCGCCACGTGTGGCCTCCCTGTGACCGGCCGCTGCGTG TTCCAGGAGCGCGGCAAGCCCTACTGCCAGCCCTGCTTCCTGAAGCTCTTCGGCTGA

CGGGGCTGCCGCCGCGCGGACGGAGCCTGCAGTGGGAGGTCGGGGGCTGGCGCTGGTGGGGGGCTCTCCAGG GCCTTCACGGTCAAACCTGAAGGACGAGATGCGGGCGAAGTGGGGGGCTTCCGGGGGCCCCCTCACCGCCCCTCTCCC GGGCTCCAGGCCGTGTTCCTGCCTCAGGGCTTCCCTGATAGCGTCAGCCCGGACTACTTGCCCTACCAGCTGTGG GATTCCGTGCAGGCGTTTGCTTCCAGCCTCTCCGGCTCCCTAGCCACCCAGGCAGTCTTGCTGGGCATAGGGGTG GGGAACGCAAAAGCCACTGTTTCAGCTGCCACGGCCACCTGGCTCGTGAAAGATTCAACTGGCATGCTGGGCCGC ATCGTCTTTGCCTGGTGGAAAGGGAGCAAACTGGACTGCAATGCCAAGCAGTGGAGGCTTTTTGCGGACATCCTC AATGACGTAGCCATGTTCCTTGAGATTATGGCTCCTGTATACCCAATCTGTTTCACCATGACCGTCTCCACCAGC AACCTAGCCAAGTGCATCGTGAGTGTTGCTGGTGGGGCCACTCGGGCTGCCCTGACCGTGCACCAGGCTCGGAGG AACAACATGGCTGACGTGTCAGCCAAGGACAGCAGCCAGGAGACGCTGGTGAACCTGGCGGGGCTCTTGGTCAGC CTCCTGATGCTCCTCTGGTGTCAGGTTGCCCTGGCTTCAGCCTTGGATGTTTCTTCTTCCTCACTGCCCTCCAC ATCTACGCCAACTACCGCGCGGTCCGAGCCCTGGTCATGGAGACCTTGAACGAAGGCCGGCTCCGGCTGGTCCTG AAGCACTACCTTCAGAGGGGAGAGGTACTCGACCCAACTGCAGCCAATCGCATGGAGCCGCTGTGGACAGGTTTC TGGCCAGCTCCGTCTCTATCCCTGGGGGTCCCCTTACACCGCTTGGTCTCCAGTGTCTTTGAGCTGCAGCAGCTG GTTGAGGGGCACCAAGAATCCTACCTCCTCTGCTGGGACCAGTCACAAAACCAGGTACAGGTAGTTCTGAACCAG AAGGCAGGCCCCAAGACCATCCTAAGGGCCGCCACACATGGGCTGATGCTTGGGGCCCTGCAGGGAGATGGACCC GAGACACGCGAGTGTTGGACATGCTGTTCCCAAAGTTCTTGAAAGGACTGCAGGATGCCGGCTGGAAGACCGAG AAGCACCAGCTAGAGGTGGGTGAGTGGAGGGCCACATGGCTTCTGTCTCCCGAAAAGAAGGTCTTG<u>TGA</u>GCAGCC CAGACGGAGGCCCAAGCCCAGGGCAGGAACCTGGAGCAAGGACACTTTGGCCACAGCAGGACAGGGGAAAGGCAG CTTTATTTTTCCTTAGGGCAACTGCAGCGGGTGGGCCCAGGCCCTCATGGGAAGTGACTGCCAATCAGATGCAGTG GGCCCCAGGCAGAGGAAGGCCGGGAGAAGGGGAGCCAGGACCTTCTCACCCCACTGCCCCTTCCCCTTTTCTGGG GAGCACCGCAGGCTCCTCACCCCCACTTCCTGTGAGGCTGTGGCTTATGGTGTCCAACGCAGTTGGTCTTAGGCA TAGAAGCCCCAGAGGAACACGGCCACTGCCATCATGAGCAGGGCATTGAGGTTGACCACACGGGCCCAGCTCGGG TCCTCGCTGATGTCCTCCAGCCGCCTGGCTGCCGCTGCCTCCTCCTGGGTAAGGGGCCGAGGACTGCCCACC CCACCTCTGCTCATTCCACAAAACCAGAGCAGGCACTGGCGGAAGAGGCTTGGTGCCGGGGCCTGGGGCTCTGAG GGAAATTGAGGCCCTGCAGTTAGTTTGCGGGAACTCAGCTCCTCCAGCCCCACCTCCCAGCATGGTGCCCTACCA TTCATCTCCATGGCACTCTCTGGGCACCCATTCTGTACAGGGAGTGAGGAGCCTTGCTGCTCATCAGCATCCAGG CTCTGTCCAGTCTACACACCCAGCCCAGGCTTAACTCATGCCAACTCCACCCTACATGGCTGCCCTGTGCCCTCG GGATAAACCCCAAGCCCCTGAGCTTGTGTTTAAAGCCGTTGGCCTTGCTCCCCCAGCTTTGTCAGCTCAGGTCTG ACCCTTTCCTCCTGCTGCAGAAACCCGGCCATCCTTCCACACCCAGATCTCTTGTCCTGTCCTCACCCCACC $\tt CTGCCACCATCAGCCCTGCCTGGAGCCACCTGCCCTTTGGCAACAAACCAAACCTTTTTGTGGGCGTTCAAGAT$ GGTATTGTGCCCACCAGTCAGATCCTGTGTTTTGAGTCCCAAAGGCCATGCCAAGGATTGGCTTTGGGAGGCTTT

MADDAGLETPLCSEQFGSGEARGCRAAADGSLQWEVGGWRWWGLSRAFTVKPEGRDAGEVGASGAPSPPLSGLQA
VFLPQGFPDSVSPDYLPYQLWDSVQAFASSLSGSLATQAVLLGIGVGNAKATVSAATATWLVKDSTGMLGRIVFA
WWKGSKLDCNAKQWRLFADILNDVAMFLEIMAPVYPICFTMTVSTSNLAKCIVSVAGGATRAALTVHQARRNNMA
DVSAKDSSQETLVNLAGLLVSLLMLPLVSGCPGFSLGCFFFLTALHIYANYRAVRALVMETLNEGRLRLVLKHYL
QRGEVLDPTAANRMEPLWTGFWPAPSLSLGVPLHRLVSSVFELQQLVEGHQESYLLCWDQSQNQVQVVLNQKAGP
KTILRAATHGLMLGALQGDGPLPAELEELRNRVRAGPKKESWVVVKETHEVLDMLFPKFLKGLQDAGWKTEKHQL
EVGEWRATWLLSPEKKVL

GCTTCCCTGCTTGATCTGTGTACCCTGCTCTTTCTCCTTCATTCCGCAGCCTCCTTTGCCCTGTGACCTGCAGGT ACTGGACGGTCCCTAGAGAGGGATACCGGGACGCTCCTGAAGCCGGAGATGATTTCAAGCAGATGCAGCCTGACC ATTAGGGCCAAGGCCAAATTGCAAAAAAAAAAAAGAAGTTTGCCTTTATTCTACTCCACCACCATCTAAACTTTGG TGGGAAGGAGGATGGCAGGATGGGTCTTCCATGATACTGAAGGGAGAGCCACATGTTGATGCCCAGGACCA GCTGCCTCCTTGGTCTGAAAGGCCTGATCGAGGCCAGGATTGGCTATGAGAGCTGGGAAATGGGACCATCTTTGA AGCCATGGGAGAGGGTGAGAGCCACCATCACTCATGTTCTTGAATGGGAACTGCCTGGAGACCCTGAAGAAGAAG GAGCCTGAAGGAGGAGGAGGAGGCCGAGCCATCCCGGGAACATGGGCTGGATGAGGCCAAGCCAGGAGACGACA CCACCAGATAGAAGTCACCATTCAGGATTTGGACTTTTCTGTGGAGATCCTGGCCCCGAGATCGAACCCTTCTCC CTGTGGGTGTTCCCGCAGGAGATGGTGCTGGAGATCCACCAGCTGTTCATGGACCATGAATACCCATGTCACCAC ATCACTTCTCACTGCACCTGGGTGGCAGCACCTGGACCACGTCTCAGAGCTGCGCAGCATGGCAGGGCTGCAGG CGGGCTTGCTGCTCCACGTGGTGGAAGAGCCCTGCACAATGCACAAGGCCCACGGTGATGAGTGCCACATTTGAG GACGGCAGGAGCAGAAAGACTTGGAGATGGACCCCACCGACTGCACACCCCAAGTACATCCTGCTAGGGACCC TGGAACAGCCACTGTGTCCCCTGCAACCCCAGAACGGTGACTAAAAGCCCCTGAAAGTGCTCACCGTGAGCGGCT GGTACCTGTCCCCTGGGAACTGCAAGATGCACAGGACCTTGTGTACCTGTTTGTGATCACAGCCGAGGACCAGCG AGGTAGCATTACCACACCACCACCACTATTACCATAACCGCCCCAGTACTGGAACGAGGAGCTGCAGATGATG AGGGACCTACCCAACAAGAACCAACCTGAGCAGCTGCTTCAAGAAAAAGCCATGTTCAAGGTGCCTGAATCCCCT GGTAAGTGAGTGACAGCCTCACAGCCTCAGGCCCACCTGGCTCCTGCTGGAAGGTTTTCTTGTGCTCGGGAGAGA AGTGAGGGAAGCCGGCAGTCCCAGCCCTGTCAGGTGCCCTGAAGGCCCGTCAGGTTTGCCCTGCAAGGCCTTCTA GCATTCTGCTTCCTGGGAGACCATCCCCCACCTTTCTCCGGCCTCTGAGACTTTGAGTCCTTGGGAGGAGAAGGC CTGAGCACATGGTGCCCAACTGTAGCCCTTCTAGGGCAGGGGCTCATTGGCAGCACTTGCAGCTTGCTGGCACTT

 ${\tt MFLNGNCLETLKKKEPEGGRRRLSHPGNMGWMRPSQETTPPDRSHHSGFGLFCGDPGPEIEPFSLWVFPQEMVLE} \\ {\tt IHQLFMDHEYPCHHITSHCTWVAAHWITSQSCAAWQGCRRACCSTWWKSPAQCTRPTVMSATFETAQEPGPS} \\$

4851/6881 FIGURE 4472

MPKRKAEGDAKGDKAKVKDEPQRRSARLSAKPPPPKPDSPSLERPLQRRERRYPKGKREKLMLRRRDSLTLTHMA TLAQKPCGIEKQICFYVLFSLSIFQHRLNSLKPRHLLGPDP

4853/6881 FIGURE 4474

CCGCTCTGTCTGCTTCGCCACCTTCTCCCCGAGCACTGCCCGGCCGCCGCCCATGGCTAACGTGGCTGACACGAA GCTGTACGACATCCTGGGCGTCCCGCCCGGCGCCAGCGAGAACGAGCTGAAGAAGGCATACAGAAAGTTAGCCAA GGAATATCATCCTGATAAGAATCCAAATGCAGGAGACAAATTTAAAGAAATAAGTTTTGCATATGAAGTACTATC AAATCCTGAGAAGCGTGAGTTATATGACAGATACGGAGGCCAAGGTCTTCGGGAAGGCAGCGGCGGAGGTGGTGG CATGGATGATATTTTCTCTCACATTTTTGGTGGGGGATTGTTCGGCTTCATGGGCAATCAGAGTAGAAGTCGAAA TGGCAGAAGAAGAGAGAGACATGATGCATCCACTCAAAGTATCTTTAGAAGATCTGTATAATGGCAAGACAAC GTGTAGTGCTTGTCGAGGTCGAGGTGTGCGCATCATGATCAGACAGCTGGCTCCAGGGATGGTACAACAGATGCA GAAGGTGATTAAAGAAGTCAAGATTCTTGAAGTCCACGTAGACAAAGGCATGAAACATGGACAGAGAATTACATT GGTATTTCAGAGAGATGGGAATGATTTGCACATGACATATAAAATAGGACTTGTTGAAGCTCTATGTGGATTTCA GTTCACATTTAAGCACCTTGATGGACGTCAGATTGTGGTGAAATACCCCCCTGGCAAAGTAATTGAACCAGGGTG TGTTCGTGTAGTTCGAGGTGAAGGGATGCCGCAGTATCGTAATCCCTTTGAAAAAGGTGATCTTTACATAAAGTT TGATGTGCAGTTTCCTGAAAACAACTGGATCAACCCAGACAAGCTTTCTGAACTAGAAGATCTTCTGCCATCTAG ACCGGAAGTTCCTAACATAATTGGAGAAACAGAGGAGGTAGAGCTTCAGGAATTTGATAGCACTCGAGGCTCAGG AGGTGGTCAGAGGCGTGAAGCCTATAATGATAGCTCTGATGAAGAAAGCAGCAGCCATCATGGACCTGGAGTGCA $\tt GTGTGCCCATCAG\underline{TAA} \tt ACTCTGCAAACAAATTGCACAGGTGGATTTTCTTTCCACATTTGCCTGATTTGTTCTCA$ GCAATCCAGCTGGAGTGTCTTATCAATCCAGATGAACTGAGGGACATCTGTTGGTCTATGTATAACTTTTAAAAT TGGTATAGTATCTACAGAGTGTATAATTTAAACTAACCACAAAGCTTTACATCTTCATTTTGACTGTTCCATAGC AGAATAAAGCACTTGAAAGGAAACAAGACTCCCTTTCACACATGGATTATTATAAGTTTCAATCCTGGTATCTGT GCTTGATTTTTATCAGTTTTGTGTAGATTTTTATGTTTCATATTTTAAATTTAAATCCCACATTGTAAAGTTTGT ACAATTTGTCCTGAAGCTTTGTGTTTTGGCTGCACCTGCATAAGCTGCTACAAATAGAATAAAGAATTTCATAGCC TGTATCTATCATTTAGATGCATGGAAAAAAATGGGCTTTGCACACAATGGGTTTGGAGCTGACTGGGAACAATGG TTTTTTTACCATCTTGTGAAAGGTTTCTGAAACTCGATAATAAAAAGCGGTTGGTGAAATT

MANVADTKLYDILGVPPGASENELKKAYRKLAKEYHPDKNPNAGDKFKEISFAYEVLSNPEKRELYDRYGEQGLR EGSGGGGGMDDIFSHIFGGGLFGFMGNQSRSRNGRRRGEDMMHPLKVSLEDLYNGKTTKLQLSKNVLCSACSGQG GKSGAVQKCSACRGRGVRIMIRQLAPGMVQQMQSVCSDCNGEGEVINEKDRCKKCEGKKVIKEVKILEVHVDKGM KHGQRITFTGEADQAPGVEPGDIVLLLQEKEHEVFQRDGNDLHMTYKIGLVEALCGFQFTFKHLDGRQIVVKYPP GKVIEPGCVRVVRGEGMPQYRNPFEKGDLYIKFDVQFPENNWINPDKLSELEDLLPSRPEVPNIIGETEEVELQE FDSTRGSGGGQRREAYNDSSDEESSSHHGPGVQCAHQ

GGCACGAGCGCGGCGTTCACGGGAATTGTTCGCTTTAGTGCCGGCGCC<u>ATG</u>GGGTCGGAGCTGATCGGGCGCCCTA GCCCCGCGCCTGGGCCTCGCCGAGCCCGACATGCTGAGGAAAGCAGAGGAGTACTTGCGCCTGTCCCGGGTGAAG TGTGTCGGCCTCTCCGCACGCACCACGGAGACCAGCAGTGCAGTCATGTGCCTGGACCTTGCAGCTTCCTGGATG **AAGTGCCCCTTGGACAGGGCTTATTTAATTAAACTTTCTGGTTTGAACAAGGAGACATATCAGAGCTGTCTTAAA** TCTTTTGAGTGTTTACTGGGCCTGAATTCAAATATTGGAATAAGAGACCTAGCTGTACAGTTTAGCTGTATAGAA GCAGTGAACATGGCTTCAAAAGATACTAAAAAAGCTATGAGTCCAGTCTTCCCCAGACACAGCAAGTGGATCTTGAC TTATCCAGGCCACTTTTCACTTCTGCTGCACTGCTTTCAGCATGCAAGATTCTAAAGCTGAAAGTGGATAAAAAC AAAATGGTAGCCACATCCGGTGTAAAAAAAGCTATATTTGATCGACTGTGTAAACAACTAGAGAAGATTGGACAG CAGGTCGACAGAGAACCTGGAGATGTAGCTACTCCACCACGGAAGAGAAGAAGATAGTGGTTGAAGCCCCAGCA AAGGAAATGGAGAAGGTAGAGGAGATGCCACATAAACCACAGAAAGATGAAGATCTGACACAGGATTATGAAGAA TGGAAAAGAAAATTTTGGAAAATGCTGCCAGTGCTCAAAAGGCTACAGCAGAG<u>TGA</u>TTTCAGCTTCCAAACTGG TATACATTCCAAACTGATAGTACATTGCCATCTCCAGGAAGACTTGACGGCTTTGGGATTTTGTTTAAACTTTTA TAATAAGGATCCTAAGACTGTTGCCTTTAAATAGCAAAGCAGCCTACCTGGAGGCTAAGTCTGGGCAGTGGGCTG GCCCCTGGTGTGAGCATTAGACCAGCCACAGTGCCTGATTGGTATAGCCTTATGTGCTTTCCTACAAAATGGAAT CAGGAGCTCGAGACCAGCCTGGCCAACATGGTGAAACCCCATCTCTACTAAAAATACAAAAATTAGCCAGGTGTG ATGGTGCATGCCTGTAATCCCAGCTCCTCAGTAGGCTGAGACAGGAGCATCACTTGAACGTGGGAGGCAGAGGTT ${\tt GATAGATAAACGGAATTGGAGCCATTTTGCTTTAAGTGAATGGCAGTCCCTTGTCTTATTCAGAATATAAA}$

4856/6881 FIGURE 4477

MGSELIGRLAPRLGLAEPDMLRKAEEYLRLSRVKCVGLSARTTETSSAVMCLDLAASWMKCPLDRAYLIKLSGLN KETYQSCLKSFECLLGLNSNIGIRDLAVQFSCIEAVNMASKILKSYESSLPQTQQVDLDLSRPLFTSAALLSACK ILKLKVDKNKMVATSGVKKAIFDRLCKQLEKIGQQVDREPGDVATPPRKRKKIVVEAPAKEMEKVEEMPHKPQKD EDLTQDYEEWKRKILENAASAQKATAE

4857/6881 FIGURE 4478

TATTTTGTCAGATGTGTTGAACCTCGATTAAGATTGCATTATGACATTCTTGAAGACCGAGTTCCATCAGGACTT ATTGTTGACTACCACAATCTGTTGTCTCAATGTGAGGAGAGTTACAGGAAATTTTTAAATCTGAGAAGCAGTTTG TCAAATTGTAACTCTGATTCCGAGCAGGAAAATATCTCCATGGTGGAAGGGTTAAAATTGTATTCGGAGATGGAA CAGTTGAAACAAAAGCTGAAACTCATTGAGAATCCTTTGTTGAGGTATGTGTTTGGTTATCAGAAGAATTCTAAC ATCCAAGCAAAGGGTGTCCGTTCCAGCGGTCAGAAGATCACTCATGTGGTCTCCTCCACCATGATGGCTGGTCTC ACTITICTCCATTGCTGACTCCATTGAGTTGGAAGGATATGGCCTACCAGATGACATTGTGATAGAAAAGAGGGGC AAAGGCGACACTTTTGTGGACTGCACTGGTGCTGATATTAAAATCTCAGGCATAAAATTTGTTCAGCATGATGCT GTAGAGGGAATCTTAATTGTTCACCGTGGTAAGACTACGCTGGAAAACTGTGTGCTGCAGTGTGAGACGACCGGA GTCACAGTGCGGACATCAGCAGAGTTTCTAATGAAGAACTCGGATTTATATGGCGCCCAAGGGTGCTGGTATAGAA TTCTTAGATGAACATTATGACATTCCCAAGATATCCATGGTGAATAATAATACATAATAATGAAGGTTATGGT GTTGTCTTGGTGAAACCTACAATCTTCTCTGACCTGCAAGAAAATGCTGAAGATGGAACTGAAGAAAATAAAGCG CTTAAAATTCAGACAAGTGGAGAGCCAGATGTGGCTGAAAGAGTGGATCTAGAAGAGCTGATTGAGTGTGCAACT GGTAAAATGGAGCTTTGTGCAAGAACTGACCCTTCTGAGCAAGTCGAGGGAAATTGTGAAATTGTAAATGAACTA ATTGCTGCCTCCACACAGAAAGGCCAGATAAAGAAGAAAAGGTTGAGTGAACTGGGGGATCACGCAAGCTGATGAC AACTTAATGTCACAGGAGATGTTTGTTGGGGATTGTGGGGAACCAGTTCAAGTGGAATGGGAAAGGTAGTTTTGGC ACATTTCTTTTCTGACTACAGTGATGTAAGTAGATAGCAAAATACTGGATTTTGCACATGCTGCCCTAAGAATCA CTGCTGCCATTGTAGTTTGCTGTATTGTCTGTATTTATATTTTGATTATTTTGGGCTTGAGTGAAAGGTAGATTTA TTTCCATTTGCAGGTGTTGCACATAAAACACTCCCTCTTTATAAGAAAAATCATAAATGCATATAAAATAGAAAA TATTTGGAGATTGCTTATCTGAAAGTCTTGCTTTCTTATACACATGGTTCTCTCATATTAAGCCTGGTAGTAACT CAATAGGTGTCATATGTACAGCATTCTTCTTAGAGTTGCCTTTTCATCCCAATTACAGTGAGTCTGATTTCCATC CTGTATTTGCATAATACTTGTCTTAAAATAAAAGCTTTTATGATTGGGAATTTATCTGCCTAATCAGACTTATTA TTGAGACGTCAATGGGACGCATTTTTCTGTTGAGCTATGCAGTCGTCAAAACAGCGATAGACAGCATAGGAGGTT TGAAGCAGAAATGAAATGTGTTATTCAGAGCCAATGTTGTACATAGAGCATTTTCACTATTGCTGAATGGGAATG ATTAAAAACAAGGTATTTTTCGGGCCAGGCGGTGGCTCACGCTTGTAATCGCAGCACTTTGGGAGGCTGAGGCAG TTAAAAAAATTAGCTGAGTGTGGTGGTGCATGCATGTAGTTCCAGCTACTCAGGAGGCTGAGGCTAGAGGATCC TTGAGECCAGGAGGTTGAGGCTGCAGTGAGGTGTGATTGCGCCACTGCATTCCAGCTTGGGCGACAGAGCGAGAC CCAGTCTCAAAAAAAAAAAAAAAGTATTTTCTCTTACCGTTACAGTATTCTGATTATATTACTGACACAGTCAAA ATGATTAACTGTACAACCTGTATCTGCTGGGTGTTCTTGTTATCATATTGTAAAACAGCTTTAAAAAATATTTATA TTTTAAAAACTGTATGTGACATTAATATGCCTAATGATTAAAATTATAGTGATGAAAATAACAAAA

CTCCAGCAAGAAGTTGAGGGAGAAAGGCGGGCCCAGGAGCGCCTGGCCACTGCCCTGCAAAAGCTGGAAGAAGCA GAAAAAGCTGCTGGTGAGAGTGAGAGGGTATGAAGGTTATTGAAAACCGGGCTTTAAAAGATGAAGAAAAGATG GAACTCCAAGAACTCCAACTCAAAGAAGCTAAGCACATŢGCAGAAGAGGCAGATAGGAAGTATGAAGAGGTGGCT CGTAAGTTGGTGACCATTGAAGGAGACTTGGAACGCACAGAGGAACGAGCTGACCTGACAGAGTCCCGTTGCCGA GAGATGGATGAGCAGATTAGACTGATGGACCAGAACCTGAAGTGTCTGAGTGCTGCTGAAGAAAAGTACTCTCAA AAAGAAGACAAATATGAGGAAGAATCAAGATTTTTACTGATAAACCCAAGGAGGCAGAGACCTGTGCTGAGTTT GCTGAGCGATCGGTAGCCAAGCTGGAAAAGACAATTGATGACTTGGAAGATAAACTGAAATGCACCAAAGAGGAG CACCTCTGTACACAAAGGATGCTGGACCAGACTCTGCTTGACCTGAATGAGATGTAGAATGCCCCAGTCCCACCC TGCTGCTGCTCCTCTGTGACCCAGACTCCGCCTGAGGCCAGCCTGCCAGAAGCTGACCTTTAACTGAGGGCTG ATCTTTAACTGGAAGGCTGCTTTCTCCTTTCACCGCCCCCCTCCTTCCCTGTGTCTTTTTCGCCAAACTGTCTCTG CCTTTTCCCGGAGAATCCAGCTGGGCTAGAGGCTGAGCACCTTTGGAAACAACATTTAAGGGAATGTGAGCACAA TGCATAATGTCTTTAAAAAGCGTGTTGTGATGTACACATTTTGTAATTACCTTTTTTGTTGTTTTTGTAGCAAACA TTTGTAAAACATTCCAAATAATTCCACAGCCCTGAAGCAGCAATCAAATCCCTTTCTCACTTTTGGAAGGTGACT TTTCACCTTAATGCATATTCCCCTCTCCATAGAGGAGAGAAAAGGTATAGGCTTGCCTTGCTGAGAGCCAAACA GAGCCCAGGGAGACTCCACTGTGGGAAACCTCATTGCTCTGTACAAAGTACTAGCTAAACCAGAAAGGTGATTCC AGGAGGAGTTAGCCCAACAACAACAAAAACAAAAATGTGCTGTTCAAGTTTTCAGCTTTAAGATATCTTTGGATA ATATTATTTCTATTTTTTTTTTTTTTTTTTTATATAGAAATGATCAAATTAAGATGGTTAAGACCTCTGAGACCAAAACT TTCTCTCATCTCTACCCCCTCCCAACTGCTCACAGAACGGATCATGTCCCCCTTATGTTGAGGTGACCACTTAAT TGCTTTCCTGCCTCCTTGAAAGAAGAAGATTGTGTTTTCTCCACTGATTTAGCCATGTGAAACTCATCTCATTA ATCTTGAATAGCTTATGTACAAAACTTTTTAAATTTTTATATTTTTAAAACTTTGCTTCTTTGGGTTTGTGGCA CCCTGGCCACCCCATGTGGCTGTGACAGCCTCTGCAGTCCGTGGGCTGGCAGTTTGCTGATCTGTTAAAATTTCT TTCCCTACCCAGTCCCCATTTTCTGGTAAGGTTTCTAGGAGGTCTGTTAGGTGTACATCCTGCAGCTTATTGGCT TAAAATGTACTCTCTTTTATGTCGTCTCTTTGGGGCTGATTGGGAGAAAGAGAAATCAATAGTGCAACTGTTTT GATACTGAATATTGACAAGTGTCTTTTTTGAAATAAAGAACCAGTCCCTCC

4859/6881 FIGURE 4480

MMQRSELSASSKKLREKGGPGNRGMKVIENRALKDEEKMELQELQLKEAKHIAEEADRKYEEVARKLVTIEGDLE RTEERAELTESRCREMDEQIRLMDQNLKCLSAAEEKYSQKEDKYEEEIKIFTDKPKEAETCAEFAERSVAKLEKT IDDLEDKLKCTKEEHLCTQRMLDQTLLDLNEM WO 2004/030615 PCT/US2003/028547.

4861/6881 FIGURE 4482

4862/6881 FIGURE 4483

TGTTTCCGCTGCATCCAGACTTCCTCAGGCGGTGGCTGGAGGCTGCGCATCTGGGGGCTTTAAACATACAAAGGGA TTGCCAGGACCTGCGGCGGCGGCGGCGGCGGGGGGCCGGGGGCCGGACCATGAGCCGCTGAGCCGG GCAAACCCCAGGCCACCGAGCCAGCGGACCCTCGGAGCGCAGCCCTGCGCCGGGAGCAGGCTCCAACCAGGCGG CGAGGCGGCCACACGCACCGAGCCAGCGACCCCCGGGCGACGCGGGGGCCAGGGAGCGCTACGATGGAGGCGCT AATGGCCCGGGGCGCCTCACGGGTCCCCTGAGGGCGCTCTGTCTCCTGGGCTGCCTGAGCCACGCCGCCGC CGCGCCGTCGCCCATCATCAAGTTCCCCGGCGATGTCGCCCCCAAAACGGACAAAGAGTTGGCAGTGCAATACCT GAACACCTTCTATGGCTGCCCCAAGGAGAGCTGCAACCTGTTTGTGCTGAAGGACACACTAAAGAAGATGCAGAA GTTCTTTGGACTGCCCCAGACAGGTGATCTTGACCAGAATACCATCGAGACCATGCGGAAGCCACGCTGCGGCAA CCCAGATGTGGCCAACTACAACTTCTTCCCTCGCAAGCCCAAGTGGGACAAGAACCAGATCACATACAGGATCAT TGGCTACACCCTGATCTGGACCCAGAGACAGTGGATGATGCCTTTGCTCGTGCCTTCCAAGTCTGGAGCGATGT GACCCCACTGCGGTTTTCTCGAATCCATGATGGAGGGCAGACATCATGATCAACTTTGGCCGCTGGGAGCATGG CGATGGATACCCCTTTGACGGTAAGGACGGACTCCTGGCTCATGCCTTCGCCCCAGGCACTGGTGTTGGGGGAGA CTCCCATTTTGATGACGATGAGCTATGGACCTTGGGAGAAGGCCAAGTGGTCCGTGTGAAGTATGGGAACGCCGA TGGGGAGTACTGCAAGTTCCCCTTCTTGTTCAATGGCAAGGAGTACAACAGCTGCACTGATACCGGCCGCAGCGA TGGCTTCCTCTGGTGCTCCACCACCTACAACTTTGAGAAGGATGGCAAGTACGGCTTCTGTCCCCATGAAGCCCT GTTCACCATGGGCGGCAACGCTGAAGGACAGCCCTGCAAGTTTCCATTCCGCTTCCAGGGCACATCCTATGACAG CTGCACCACTGAGGGCCGCACGGATGGCTACCGCTGGTGCGGCACCACTGAGGACTACGACCGCGACAAGAAGTA TGGCTTCTGCCCTGAGACCGCCATGTCCACTGTTGGTGGGAACTCAGAAGGTGCCCCCTGTGTCTTCCCCTTCAC CAACTACGATGATGACCGCAAGTGGGGGCTTCTGCCCTGACCAAGGGTACAGCCTGTTCCTCGTGGCAGCCCACGA GTTTGGCCACGCCATGGGGCTGGAGCACTCCCAAGACCCTGGGGCCCTGATGGCACCCATTTACACCTACACCAA GAACTTCCGTCTGTCCCAGGATGACATCAAGGGCATTCAGGAGCTCTATGGGGCCCTCTCCTGACATTGACCTTGG CACCGGCCCCACCCCCACGCTGGGCCCTGTCACTCCTGAGATCTGCAAACAGGACATTGTATTTGATGGCATCGC TCAGATCCGTGGTGAGATCTTCTTCTTCAAGGACCGGTTCATTTGGCGGACTGTGACGCCACGTGACAAGCCCAT GGGGCCCCTGCTGGTGGCCACATTCTGGCCTGAGCTCCCGGAAAAGATTGATGCGGTATACGAGGCCCCACAGGA GCCACTGACCAGCCTGGGACTGCCCCCTGATGTCCAGCGAGTGGATGCCGCCTTTAACTGGAGCAAAAACAAGAA GACATACATCTTTGCTGGAGACAAATTCTGGAGATACAATGAGGTGAAGAAGAAAATGGATCCTGGCTTCCCCAA GCTCATCGCAGATGCCTGGAATGCCATCCCCGATAACCTGGATGCCGTCGTGGACCTGCAGGGCGGCGGTCACAG CTACTTCTTCAAGGGTGCCTATTACCTGAAGCTGGAGAACCAAAGTCTGAAGAGCGTGAAGTTTGGAAGCATCAA ATCCGACTGGCTAGGCTGAGCTGGCCCTGGCTCCCACAGGCCCTTCCTCCACTGCCTTCGATACACCGGG CCTGGAGAACTAGAGAAGGACCCGGAGGGGCCTGGCAGCCGTGCCTTCAGCTCTACAGCTAATCAGCATTCTCAC TCCTACCTGGTAATTTAAGATTCCAGAGAGTGGCTCCTCCCGGTGCCCAAGAATAGATGCTGACTGTACTCCTCC CAGGCGCCCCTCCCAATCCCACCAACCCTCAGAGCCACCCCTAAAGAGATACTTTGATATTTTCAACGC AGCCCTGCTTTGGGCTGCCCTGGTGCTGCCACACTTCAGGCTCTTCTCCTTTCACAACCTTCTGTGGCTCACAGA ACCCTTGGAGCCAATGGAGACTGTCTCAAGAGGGCACTGGTGGCCCGACAGCCTGGCACAGGGCAGTGGGACAGG AAGGACTCAGGTTGTCTGAAGTCACTGCACAGTGCATCTCAGCCCACATAGTGATGGTTCCCCTGTTCACTCTAC TTAGCATGTCCCTACCGAGTCTCTTCTCCACTGGATGGAGGAAAACCAAGCCGTGGCTTCCCGCTCAGCCCTCCC TGCCCCTCCCTTCAACCATTCCCCATGGGAAATGTCAACAAGTATGAATAAAGACACCTACTGAGTGGC

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MFLAKALLEGADRGLGEALGGLFGGGGQRREGGGRNIGGIVGGIVNFISEAAAAQYTPEPPPTQQHFTSVEASES EEVRRFRQQFTQLAGPDMEVGATDLMNILNKVLSKHKDLKTDGFSLDTCRSIVSVMDSDTTGKLGFEEFKYLWNN IKKWQCVYKQYDRDHSGSLGSSQLRGALQAAGFQLNEQLYQMIVRRYANEDGDMDFNNFISCLVRLDAMFRAFKS LDRDRDGLIQVSIKEWLQLTMYS

GGTGCAGCCCGAGAACAACGGGGCGGACACGGGTCCAGAGCAGCCCCTTCGGGCGCGCAAAACTGCGGAGCTGCT GGTGGTGAAGGAGCGCAACGGCGTCCAGTGCCTGCTGGCGCCCCGGGACGCGACGCGCAGCCCCGGGAGACCTG GGGCAAGAAGATCGACTTCCTGCTGTCCGTAGTCGGCTTCGCAGTGGACCTGGCCAACGTGTGGCGCTTCCCCTA CCTCTGCTACAAGAACGGCGGCGGTGCCTTCTTGATCCCGTACACACTGTTCCTTATCATCGCGGGGATGCCCCT GTTCTACATGGAGCTGGCTCTGGGACAGTACAACCGGGAGGGGGCTGCCACCGTTTGGAAAATCTGCCCATTCTT CAAAGGCGTTGGCTATGCTGATCCTGATCGCCCTGTACGTTGGCTTCTACTACAACGTCATCATCGCCTGGTC ACTCTACTACCTCTTCTCCTCCTTCACCCTCAACCTGCCCTGGACCGACTGTGGCCACACCTGGAACAGCCCCAA CTGTACCGACCCCAAGCTCCTCAATGGCTCCGTGCTTGGCAACCACCAAGTACTCCAAGTACAAGTTCACGCC GGCAGCCGAGTTTTATGAGCGTGGTGTCCTGCACCTTCACGAGAGCAGCGGGATTCATGACATCGGCCTGCCCCA GTGGCAGCTCTTGCTCTGTCTGATGGTCGTCGTCATCGTCTTGTATTTTAGCCTCTGGAAAGGGGTGAAGACATC AGGAAAGGTGGTGTGGATCACAGCCACGCTGCCTTACTTCGTGCTGTTCGTGCTCCTGGTCCATGGCGTCACGCT GCCCGGAGCCTCCAATGGCATCAATGCCTACCTGCACATCGACTTCTACCGCTTGAAAGAGGCCCACGGTATGGAT ATTTGACAACAACTGTTACAGGGATGCCCTGCTGACCAGCAGCATCAACTGTATCACCAGCTTCGTCTCTGGGTT CGCCATCTTCTCCATCCTTGGTTACATGGCCCATGAACACAAGGTCAACATTGAGGATGTGGCCACAGAAGGAGC TGGCCTAGTGTTCATCCTGTATCCAGAGGCCATTTCTACCCTGTCTGGATCTACATTCTGGGCTGTTGTGTTTTT CGTCATGCTCCTGGCGCTGGGCCTTGACAGCTCAATGGGAGGCATGGAGGCTGTCATCACGGGCCTGGCAGATGA CTTCCAGGTCCTGAAGCGACACCGGAAACTCTTCACATTTGGCGTCACCTTCAGCACTTTCCTTCTCGCCCTGTT CTGCATAACCAAGGGTGGAATTTACGTCTTGACCCTCCTGGACACCTTTGCTGCGGGCACCTCCATCCTTTTTGC TGTCCTCATGGAAGCCATCGGAGTTTCCTGGTTTTATGGAGTGGACAGGTTCAGCAACGACATCCAGCAGATGAT GGGGTTCAGGCCGGGTCTATACTGGAGACTGTGCTGGAAGTTCGTCAGTCCTGCCTTCCTCCTGTTCGTGGTTGT GGGCATCGCCCTGTCCTCCATGGTCCTGGTGCCCATCTACGTCATCTATAAGTTCCTCAGCACGCAGGGCTCTCT TTGGGAGAGACTGGCCTATGGCATCACGCCAGAGAACGAGCACCACCTGGTGGCTCAGAGGGACATCAGACAGTT $\tt CCAGTTGCAACACTGGCTGGCCATC\underline{TGA}_{GCCTGCCTGGAGGAGGAGGGAACCCCCATGCCAATGTCCAGGTCA$ CAGGCATCCGCTGCGCTCCCACCTCGGACACCATCTTGGGATTCCTCCCCTGGAAGTTGTCCTTTCTGATCCTCT CTTCTTTTCCCATTTACAAATGATTTCGTGACTGTAGTTTTTGTTCACCTTCTGTGCATCTGGCCTGGGGGCTGT TAGCTCAGAGGAGAGGAGCAAACAGGAAAATGACTT

MLLARMNPQVQPENNGADTGPEQPLRARKTAELLVVKERNGVQCLLAPRDGDAQPRETWGKKIDFLLSVVGFAVD LANVWRFPYLCYKNGGGAFLIPYTLFLIIAGMPLFYMELALGQYNREGAATVWKICPFFKGVGYAVILIALYVGF YYNVIIAWSLYYLFSSFTLNLPWTDCGHTWNSPNCTDPKLLNGSVLGNHTKYSKYKFTPAAEFYERGVLHLHESS GIHDIGLPQWQLLLCLMVVVIVLYFSLWKGVKTSGKVVWITATLPYFVLFVLLVHGVTLPGASNGINAYLHIDFY RLKEATVWIDAATQIFFSLGAGFGVLIAFASYNKFDNNCYRDALLTSSINCITSFVSGFAIFSILGYMAHEHKVN IEDVATEGAGLVFILYPEAISTLSGSTFWAVVFFVMLLALGLDSSMGGMEAVITGLADDFQVLKRHRKLFTFGVT FSTFLLALFCITKGGIYVLTLLDTFAAGTSILFAVLMEAIGVSWFYGVDRFSNDIQQMMGFRPGLYWRLCWKFVS PAFLLFVVVVSIINFKPLTYDDYIFPPWANWVGWGIALSSMVLVPIYVIYKFLSTQGSLWERLAYGITPENEHHL VAQRDIRQFQLQHWLAI

GAACTGTCGCCCTTCCAGGATGTGGCTCCCTGCTCTTGTCCTGGCCACTCTCGCTGCTTCCGCGGCTTGGGGGCCA TCCGTCCTCGCCACCTGTGGTGGACACCGTGCATGGCAAAGTGCTGGGGAAGTTCGTCAGCTTAGAAGGATTTGC ACAGCCTGTGGCCATTTTCCTGGGAATCCCTTTTGCCAAGCCGCCTCTTGGACCCCTGAGGTTTACTCCACCGCA GCCTGCAGAACCATGGAGCTTTGTGAAGAATGCCACCTCGTACCCTCCTATGTGCACCCAAGATCCCAAGGCGGG GCAGTTACTCTCAGAGCTATTTACAAACCGAAAGGAGAACATTCCTCTCAAGCTTTCTGAAGACTGTCTTTACCT CAATATTTACACTCCTGCTGACTTGACCAAGAAAAACAGGCTGCCGGTGATGGTGTGGATCCACGGAGGGGGGCT GATGGTGGGTGCGCATCAACCTATGATGGGCTGGCCCTTGCTGCCCCATGAAAACGTGGTGGTGGTGACCATTCA ATATCGCCTGGGCATCTGGGGATTCTTCAGCACAGGGGGATGAACACAGCCGGGGGAACTGGGGTCACCTGGACCA GGTGGCTGCCCTGCGCTCGGGTCCAGGACAACATTGCCAGCTTTGGAGGGAACCCAGGCTCTGTGACCATCTTTGG AGAGTCAGCGGGAGGAGAAAGTGTCTCTGTTCTTGTTTTGTCTCCATTGGCCAAGAACCTCTTCCACCGGGCCAT TTCTGAGAGTGGCGTGGCCCTCACTTCTGTTCTGGTGAAGAAAGGTGATGTCAAGCCCTTGGCTGAGCAAATTGC GGCACTGTGATTGATGGGATGCTGCTGAAAACACCTGAAGAGCTTCAAGCTGAAAGGAATTTCCACACTGTC CCCTACATGGTCGGAATTAACAAGCAGGAGTTTGGCTGGTTGATTCCAATGTTGATGAGCTATCCACTCTCCGAA GGGCAACTGGACCAGAAGACAGCCATGTCACTCCTGTGGAAGTCCTATCCCCTTGTTTGCATTGCTAAGGAACTG ATGTATGAGTTTCAGTACCGTCCAAGCTTCTCATCAGACATGAAACCCAAGACGGTGATAGGAGACCACGGGGGAT GTGATGAAATTCTGGGCCAACTTTGCTCGCAATGGAAACCCCAATGGGGAAGGGCTGCCCCACTGGCCAGAGTAC AACCAGAAGGAAGGGTATCTGCAGATTGGTGCCAACACCCAGGCGGCCCAGAAGCTGAAGGACAAAGAAGTAGCT ATCCAGCCGGCCTTGGGAGCCTGGAGGAGCAAAGACTGGGGTCTTTTGCGAAAGGGATTGCAGGTTCAGAAGGCA TCTTACCATGGCTGGGGAATTGTCTGGTGGTGGGGGGCAGGGGACAGAGGCCATGAAGGACCAAGTTTTGTATTT GTGACCTCAGCTTTGGGAATAAAGGATCTTTTGAAGGCC

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CTCCGCCAGGACCCCCGAGGGCGAGCGCCTGGGGGGGCCCTTGCTCGCGGGAGCGCTGCTGAGGGAGAGTGG TTCTAGTAAATACCGCTTGCTGTTTTTGATGTTGGTGGCTAAGCTCATCCAGTGTATTGTGTTTTGGCCCTCTTC GAGTGAGTGAGAGACAGCATCTCAAAGACAAATTTTGGAATTTTATTTTCTACAAGTTCATTTTCATCTTTGGTG TGCTGAATGTCCAGACAGTGGAAGAGGTGGTCATGTGGTGCCTCTGGTTTGCCGGACTTGTCTTTCTGCACCTGA TGGTTCAGCTCTGCAAGGATCGATTTGAATATCTTTCCTTCTCGCCCACCACGCCGATGAGCAGCCACGGTCGAG TCCTGTCCCTGTTGGTTGCCATGCTGCTTTCCTGCTGGACTGGCGGCCGTCTGCTCCATCACCGGCTACACCC ACGGAATGCACACCTTGGCTTTCATGGCTGCAGAGTCTCTTCTTGTGACAGTGAGGACTGCTCATGTGATTTTAC ACTTTGTCATGGAGCTCACTCTCCTGTCCCTGGACCTCATGCACCATATTCACATGTTGTTATTTGGCAACATCT GGTTATCCATGGCCAGCCTGGTCATCTTTATGCAGCTGCGTTACCTGTTTCATGAGGTGCAACGTCGAATTCGTC TCAACAATGACGACTGTGCCATCTGTTGGGACTCCATGCAGGCTGCGCGGAAACTGCCCTGTGGACATCTTTTCC ACAACTCCTGTCTTCGTTCCTGGCTAGAACAAGACACCTCCTGTCCAACATGCAGAATGTCTCTTAATATTGCCG ACAATAATCGTGTCAGGGAAGAACATCAAGGAGAGAACTTGGATGAGAATTTGGTTCCTGTAGCAGCAGCCGAAG TTTCGGTTGAAGTGATGCACACCACCAACATTCTTGGCATTACGCAGGCCAGCAACTCCCAGCTCAATGCAATGG CTCATCAGATTCAAGAGATGTTTCCCCAGGTTCCATACCATCTGGTACTGCAGGACCTCCAGCTGACACGCTCAG TTGAAATAACAACAGACAATATTTTAGAAGGACGGATTCAAGTACCTTTTCCTACACAGCGGTCAGATAGCATCA GACCTGCATTGAACAGTCCTGTGGAAAGGCCAAGCAGTGACCAGGAAGAGGGGAGAAACTTCTGCTCAGACCGAGC GTGTGCCACTGGACCTCAGTCCTCGCCTGGAGGAGACGCTGGACTTCGGCGAGGTGGAAGTGGAGCCCAGTGAGG TGGAAGACTTCGAGGCTCGTGGGAGCCGCTTCTCCAAGTCTGCTGATGAGAGACAGCGCATGCTGGTGCAGCGTA AGGACGAACTCCTCCAGCAAGCTCGCAAACGTTTCTTGAACAAAAGTTCTGAAGATGATGCGGCCTCAGAGAGCT GGCTTCAGAAGCAGCAGACCTCCTAGCGCTCCCTTGCCTTCCTCAGCTGCCTCCTGCGCCCTGTGCCCGACTGAC TGGAGGAGGCCTGTCCCAATTCTGCCCGCTCCATGGAAAAGCGGGCTTGACTGCATTGCCGCTGTATAAAGCATG TGGTCTTATAGTGTTTGGACAGCTGATAAATTTAATCCTTCTTTGTAATACTTTCTATGTGACATTTCTCTTCCC CTTAGAAACACTGCAAATTTTAACTGTAGGTATGATCTCTTCTGGTGTTGACTGGACTGCTTGGGGTGGGGGACG ATCAGGAGGAAGTGAGCAGTCGCCTGCAGCAGGCAGCTTCTACTCCTGCCTCATGCGTACGTCCCACAAAT GGGGTAACATCTGTTATCAAACTGCTGTCGTTGTTGTGGAAGCATGTAGACTGTGCCAGAGGCCAGACCCACGGG CTCATGCACCCCTGAGCCAGCAGGGCATCTTGGAAAAGGAACTCTTGGTTCGATACCTGGAGCAGAGGAGGGGGAA AGTCCAAAGCCGGCTTGATTTCCGTGAACTCTGGTGCTCCTGCATCTCATGAGTGTGCCCCATGGGTCCCCTCCC TTGGTGAAGTAAATTAGGCAGTGCTAAAGCCTGTGGGTTTGGTCCTTGAACAAGATGTGGGCCTTGCAAGATGGG AGAGTAAACCTTGAAGGGCTTTATTAAAGAAATAAAAAAGAACTTTTGTATCTTTTATCCTGGGAGCACTGCGTT AGGTCCCAAATCTCTTCAAATTCTTCACATGTTTAACTTTAAGGATTTGAACCATGAAGTCATAGGTTACAGACC TGTGGTAGTCCTTTTGGGAAGAATCCAGTATTATCCACAATTATTGGCAAAGTTTAAATGTATTTTACATAACGG GAGCATAGCTATTTGTTTTTTTTTTTATAAA

MDPNCSCATGGSCTCAGSCKCKECKCTSCKKSECGAISRNLGLWLRLGGNSRLALSASFWGTGLSLPSLPVSFPL QAFCPKFRWGRTAFFSWDTNPNCTPYGFRTELCQTKKSILWVWVLSSSQACY

MDPNCSCSPVGSCACAGSCKCKECKCTSCKKSCCSCCPVGCAKCAQGCICKGTSDKCSCCA

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CTGAGCGACAGCAAGTGCAGCGGGCTCCTACCCCGGGTGAGGGGTGGCCTCCGCGTGGGATCGTGCCCTCTTCAG CCCGCTCCTGTCCCCGACATCACGTGTATTCCGCACGTCCCCTCCGCGCTGTGTGTCTACTGAGACGGGGAGGCG TGACAGGGCCCGGGTCCCTTCTCAGTGGTGCTCTGTGCTTCAGGGCCAAGCTCCCCGTCTCCGGGCGCACTTCCCT CGCCTGTGTTCGGTCCATCCTCCTTTCTCCAGCCTCCTCCCCTCGCAGGTGGGATCGTCGGTGGGACCGGAGCGC GGGCGGCCCGCGCGCCCCGGGACCATGCCCGGGTCCGACACCGCGCCCTTCCTCAGCCAGGCGGATGACCCGGAC GACGGCCAGTGCCTGGCACCCCGGGGTTGCCAGGGTCCACGGGGAACCCGAAGTCCGAGGAGCCCGAGGTCCCG GACCAGGAGGGGCTGCAGCGCATCACCGGCCTGTCTCCCGGCCGTTCGGCTCTCATAGTGGCGGTGCTGTGCTAC GGGGACAGTAGCTCTGGGCTCATCCAGACCGTGTTCATCTCCAGTTACATGGTGTTGGCACCTGTGTTTGGCTAC CTGGGTGACAGGTACAATCGGAAGTATCTCATGTGCGGGGGCATTGCCTTCTGGTCCCTGGTGACACTGGGGTCA TCCTTCATCCCCGGAGAGCATTTCTGGCTGCTCCTCCTGACCCGGGGCCTGGTGGGGGGTCGGGGAGGCCAGTTAT TCCACCATCGCGCCCACTCTCATTGCCGACCTCTTTGTGGCCGACCAGCGGAGCCGGATGCTCAGCATCTTCTAC TTTGCCATTCCGGTGGGCAGTGGTCTGGGCTACATTGCAGGCTCCAAAGTGAAGGATATGGCTGGAGACTGGCAC TGGGCTCTGAGGGTGACACCGGGTCTAGGAGTGGTGGCCGTTCTGCTGCTGTTCCTGGTAGTGCGGGAGCCGCCA AGGGGAGCCGTGGAGCGCCACTCAGATTTGCCACCCCTGAACCCCACCTCGTGGTGGGCAGATCTGAGGGCTCTG GCAAGAAATCCTAGTTTCGTCCTGTCTTCCCTGGGCTTCACTGCTGTGGCCTTTGTCACGGGCTCCCTGGCTCTG TGGGCTCCGGCATTCCTGCTTCCCGCGTGGTCCTTGGGGAGACCCCACCCTGCCTTCCCGGAGACTCCTGC ATCAGCCGCCGGCTCCGCCACTCCAACCCCGGGCTGATCCCCTGGTCTGTGCCACTGGCCTCCTGGGCTCTGCA CCCTTCCTCTTCCTGTCCCTTGCCTCGCCCCGTGGTAGCATCGTGGCCACTTATATTTTCATCTTCATTGGAGAG ACCCTCCTGTCCATGAACTGGGCCATCGTGGCCGACATTCTGCTGTACGTGGTGATCCCTACCCGACGCTCCACC GCCGAGGCCTTCCAGATCGTGCTGTCCCACCTGCTGGGTGATGCTGGGAGCCCCTACCTCATTGGCCTGATCTCT GACCGCCTGCGCCGGAACTGGCCCCCCTCCTTCTTGTCCGAGTTCCGGGCTCTGCAGTTCTCGCTCATGCTCTGC GCGTTTGTTGGGGCACTGGGCGCGCGCGCCTTCCTGGGCACCGCCATCTTCATTGAGGCCGACCGCCGGCGGCCA CAGCTGCACGTGCAGGGCCTGCTGCACGAAGCAGGGTCCACAGACGACCGGATTGTGGTGCCCCAGCGGGGCCGC GCCCTGGGCCCACCCACGAAGGGCCTGGGCCTAACCCCTTGGCCTGGCCCAGCTTCCAGAGGGACCCTGGGCCG TGTGCCAGCTCCCAGACACTACATGGGTAGCTCAGGGGAGGGGGGGTCCAGGAGGGGGGATCCCTCTCCACA

MAGSDTAPFLSQADDPDDGPVPGTPGLPGSTGNPKSEEPEVPDQEGLQRITGLSPGRSALIVAVLCYINLLNYMD RFTVAGVLPDIEQFFNIGDSSSGLIQTVFISSYMVLAPVFGYLGDRYNRKYLMCGGIAFWSLVTLGSSFIPGEHF WLLLLTRGLVGVGEASYSTIAPTLIADLFVADQRSRMLSIFYFAIPVGSGLGYIAGSKVKDMAGDWHWALRVTPG LGVVAVLLLFLVVREPPRGAVERHSDLPPLNPTSWWADLRALARNPSFVLSSLGFTAVAFVTGSLALWAPAFLLR SRVVLGETPPCLPGDSCSSSDSLIFGLITCLTGVLGVGLGVEISRRLRHSNPRADPLVCATGLLGSAPFLFLSLA CARGSIVATYIFIFIGETLLSMNWAIVADILLYVVIPTRRSTAEAFQIVLSHLLGDAGSPYLIGLISDRLRRNWP PSFLSEFRALQFSLMLCAFVGALGGAAFLGTAIFIEADRRRAQLHVQGLLHEAGSTDDRIVVPQRGRSTRVPVAS VLI

GGCGCGGAGGAGGAGGTTCCCGGAAGCCACGCGCAGCTGGAGCACCGCAGCTGGAGGCCCGGAGCGCC TCGGGGCCGGTCCATGCTCCCGACGGCTGCGGGCTTCAGCATCTGGGGCCAGGTTGGGGCGGGGGGCCAGGGC GCAGGTGGTGCGGCCGATGCGCCGGGCCGGAGGCTGAGGCCGCGCTGCGGGGCTGGGACAGCACTGGCATCTCCA GAGCAGGCCCGGGGCAGCAAGGGAGGCGCCGCGATGCCAGACGAAAATATCTTCCTGTTCGTGCCCAACCTCATC GGTTATGCCCGGATTGTCTTCGCCATCATTTCTTTCTACTTCATGCCCTGCTGCCCCCTCACGGCCTCCTTC ${\tt TACCTGCTCAGCGGCCTGCTGGACGCTTTCGATGGACACGCTGCTCGCGCTCTTAATCAAGGAACCCGGTTTGGG}$ GCCATGCTGGACATGCTGACGGACCGCTGCTCCACCATGTGCCTGTTGGTCAACCTGGCCCTGCTGTACCCTGGA GCCACGCTGTTCTTCCAAATCAGCATGAGTTTGGATGTGGCCAGTCACTGGCTGCACCTCCACAGTTCTGTGGTC CGAGGCAGTGAGAGTCACAAGATGATCGACTTGTCCGGGAATCCGGTGCTTCGGATCTACTACACCTCGAGGCCT ${\tt GCTCTGTTCACCTTGTGTGCTGGGAATGAGCTCTTCTACTGCCTCCTCTACCTGTTCCATTTCTCTGAGGGACCT}$ TTAGTTGGCTCTGTGGGACTGTTCCGGATGGCCCTCTGGGTCACTGCCCCATCGCCTTGCTGAAGTCGCTCATC AGCGTCATCCACCTGATCACGGCCGCCCGCAACATGGCTGCCCTGGACGCAGCAGCCGCCCAAGAAGAAGTGA AGGAGGTCCCAGTCTCACGCCTTCCTCATGTGTTGTTCTACCTGCTGGGATGGGGGTCAGCCTCTCTTTGGTGAC GGTGCTCCTGGGGTGCCGGGACCGGGCAGTGTCACACCCTGCCTCAGTCCTGGGGTCCGAGATGCTAGGGAC AAGCTTGGGGCACCATGCCCAGGAGGGAAGAAGCCATCCACAGCCTTCCCTGTCACCGGCTCCTCTGTCCTGCCT ACCCTGGTCCTGGCGGGACTTCACTATTTGACTTGGTTTCCTTTCAGATATTCTTGGCTCAGGGCCTGGGTTGAG ACCTCACAGAGAGGCCCTCCTGCCACCCATGCTCATGTGGTGTCCCCACCGCCCACTTGTTTGATGTCACTGACT GTCTACATGTATTTATATTCTTGATATTTTCTACCCTCACTAGAATGTAAACTCCATGAAGGCACAGACTTTTCT TC

TTCCCCATCTGAGGCGTTTGTTGCAGCTACCTGCACTTCTAGATGCTCCCCAGGTTCATCCTGTGTCGTCTCCCC CACCTACCAGTCATCTTCTTGTGAGCCCTGGGCTTAGGAGTCACCATGCCAACTGAAGAGTTCATCATCCGCATC CCCCCATACCACTATATCCATGTGCTGGACCAGAACAGCAACGTGTCCCGTGTGGAGGTCGGGCCAAAGACCTAC ATCCGGCAGGACAATGAGAGGGTACTGTTTGCCCCCATGCGCATGGTGACCGTCCCCCCACGTCACTACTGCACA GTGGCCAACCCTGTGTCTCGGGATGCCCAGGGCTTGGTGCTGTTTGATGTCACAGGGCAAGTTCGGCTTCGCCAC GCTGACCTCGAGATCCGGCTGGCCCAGGACCCCTTCCCCCTGTACCCAGGGGAGGTGCTGGAAAAGGACATCACA CCCCTGCAGGTGGTTCTGCCCAACACTGCCCTCCATCTAAAGGCGCTGCTTGATTTTGAGGATAAAGATGGAGAC GAGATCATTCAGGCCACCATCATCAGGCAGAACCAGGCTCTGCGGCTCAGGGCCCGCAAGGAGTGCTGGGACCGG GACGGCAAGGAGAGGGTGACAGGGGAAGAATGGCTGGTCACCACAGTAGGGGCGTACCTCCCAGCGGTGTTTGAG GAGGTTCTGGATTTGGTGGACGCCGTCATCCTTACGGAAAAGACAGCCCTGCACCTCCGGGCTCGGCGGAACTTC CGGGACTTCAGGGGAGTGTCCCGCCGCACTGGGGAGGAGTGGCTGGTAACAGTGCAGGACACAGAGGCCCACGTG ${\tt CCAGATGTCCACGAGGAGGTGCTGGGGGTTGTGCCCATCACCACCCTGGGCCCCCACACTACTGCGTGATTCTC}$ GACCCTGTCGGACCGGATGGCAAGAATCAGCTGGGGCAGAAGCCGCGTGGTCAAGGGAGAGAAGTCTTTTTTCCTC CAGCCAGGAGAGCAGCTGGAACAAGGCATCCAGGATGTGTATGTGCTGTCGGAGCAGCAGGGGCTGCTGCTGAGG GCCCTGCAGCCCCTGGAGGAGGGGGGAGGATGAGGAGAAGGTCTCACACCAGGCTGGGGACCACTGGCTCATCCGC GGACCCCTGGAGTATGTGCCATCTGCCAAAGTGGAGGTGGTGGAGGAGCGCCAGGCCATCCCTCTAGACGAGAAC GACGAAGTCCTGTGGGAGAAAGAGCTGCCTCCCGGGGTGGAGGAGCTGCTGAACAAGGGGCAGGACCCTCTGGCA GACAGGGGTGAGAAGGACACAGCTAAGAGCCTCCAGCCCTTGGCGCCCCGGAACAAGACCCGTGTGGTCAGCTAC CGCGTGCCCACAACGCTGCGGTGCAGGTGTACGACTACCGAGAGAAGCGAGCCCGCGTGGTCTTCGGGCCTGAG $\tt CTGGTGTCGCTGGGTCCTGAGGAGCAGTTCACAGTGTTGTCCCTCTCAGCTGGGCGGCCCAAGCGTCCCCATGCC$ CGCCGTGCGCTCTGCTGCTGCTGGGGCCTGACTTCTTCACAGACGTCATCACCATCGAAACGGCGGATCATGCC AGGCTGCAACTGCAGCTGGCCTACAACTGGCACTTTGAGGTGAATGACCGGAAGGACCCCCAAGAGACGGCCAAG CTCTTTCAGTGCCAGACTTTGTAGGTGATGCCTGCAAAGCCATCGCATCCCGGGTGCGGGGGGCCGTGGCCTCT GTCACTTTCGATGACTTCCATAAGAACTCAGCCCGCATCATTCGCACTGCTGTCTTTGGCTTTGAGACCTCGGAA GCGAAGGCCCCGATGCCATGCCCTGCCCAGGCCCCGGGACCAGGCTGTCTTCCCCCAAAACGGGCTGGTGGTC AGCAGTGTGGACGTGCAGTCAGTGGAGCCTGTGGATCAGAGGACCCGGGACGCCCTGCAACGCAGCGTCCAGCTG GCCATCGAGATCACCACCAACTCCCAGGAAGCGGCGGCCAAGCATGAGGCTCAGAGACTGGAGCAGGAAGCCCGC GGCCGGCTTGAGCGGCAGAAGATCCTGGACCAGTCAGAAGCCGAGAAAGCTCGCAAGGAACTTTTGGAGCTGGAG GCTCTGAGCATGGCCGTGGAGAGCACCGGGACTGCCAAGGCGGAGGCCGAGTCCCGTGCGGAGGCAGCCCGGATT GAGGGAGAAGGGTCCGTGCTGCAGGCCAAGCTAAAAGCACAGGCCTTGGCCATTGAAACGGAGGCTGAGCTCCAG AGGGTCCAGAAGGTCCGAGAGCTGGAACTGGTCTATGCCCGGGCCCAGCTGGAGCTGGAGGTGAGCAAGGCTCAG CAGCTGGCTGAGGTGAAGAAGTTCAAGCAGATGACAGAGGCCATAGGCCCCAGCACCATCAGGGACCTT GCTGTGGCTGGGCCTGAGATGCAGGTAAAACTGCTCCAGTCCCTGGGCCTGAAATCAACCCTCATCACCGATGGC TCCACTCCCATCAACCTCTTCAACACAGCCTTTGGGCTGCTGGGGATGGGGCCCGAGGGTCAGCCCCTGGGCAGA AGGGTGGCCAGTGGGCCCTGGGGAGGGGATATCCCCCCAGTCTGCTCAGGCCCCTCAAGCTCCTGGAGAC **GTTTCCA**

MATEEFIIRIPPYHYIHVLDQNSNVSRVEVGPKTYIRQDNERVLFAPMRMVTVPPRHYCTVANPVSRDAQGLVLF
DVTGQVRLRHADLEIRLAQDPFPLYPGEVLEKDITPLQVVLPNTALHLKALLDFEDKDGDKVVAGDEWLFEGPGT
YIPRKEVEVVEIIQATIIRQNQALRLRARKECWDRDGKERVTGEEWLVTTVGAYLPAVFEEVLDLVDAVILTEKT
ALHLRARRNFRDFRGVSRRTGEEWLVTVQDTEAHVPDVHEEVLGVVPITTLGPHNYCVILDPVGPDGKNQLGQKR
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PRNKTRVVSYRVPHNAAVQVYDYREKRARVVFGPELVSLGPEEQFTVLSLSAGRPKRPHARRALCLLLGPDFFTD
VITIETADHARLQLQLAYNWHFEVNDRKDPQETAKLFSVPDFVGDACKAIASRVRGAVASVTFDDFHKNSARIIR
TAVFGFETSEAKGPDGMALPRPRDQAVFPQNGLVVSSVDVQSVEPVDQRTRDALQRSVQLAIEITTNSQEAAAKH
EAQRLEQEARGRLERQKILDQSEAEKARKELLELEALSMAVESTGTAKAEAESRAEAARIEGEGSVLQAKLKAQA
LAIETEAELQRVQKVRELELVYARAQLELEVSKAQQLAEVEVKKFKQMTEAIGPSTIRDLAVAGPEMQVKLLQSL
GLKSTLITDGSTPINLFNTAFGLLGMGPEGQPLGRRVASGPSPGEGISPQSAQAPQAPGDNHVVPVLR

AAAGGTTCCCCATCTGAGGCGTTTGTTGCAGCTACCTGCACTTCTAGATTCATCTTCTTGTGAGCCCTGGGCTTA GGAGTCACCATGCCAACTGAAGAGTTCATCATCCGCATCCCCCCATACCACTATATCCATGTGCTGGACCAGAAC AGCAACGTGTCCCGTGTGGAGGTCGGGCCAAAGACCTACATCCGGCAGGACAATGAGAGGGTACTGTTTGCCCCC ATGCGCATGGTGACCGTCCCCCCACGTCACTACTGCACAGTGGCCAACCCTGTGTCTCGGGATGCCCAGGGCTTG GTGCTGTTTGATGTCACAGGGCAAGTTCGGCTTCGCCACGCTGACCTCGAGATCCGGCTGGCCCAGGACCCCTTC CCCCTGTACCCAGGGGAGGTGCTGGAAAAGGACATCACCCCTGCAGGTGGTTCTGCCCAACACTGCCCTCCAT CTAAAGGCGCTGCTTGATTTTGAGGATAAAGATGGAGACAAGGTGGTGGCAGGAGATGAGTGGCTTTTCGAGGGA CCTGGCACGTACATCCCCCGGAAGGAAGTGGAGGTCGTGGAGATCATTCAGGCCACCATCATCAGGCAGAACCAG GCTCTGCGGCTCAGGGCCCGCAAGGAGTGCTGGGACCGGGACGGCAAGGAGAGGGTGACAGGGGAAGAATGGCTG GTCACCACAGTAGGGGCGTACCTCCCAGCGGTGTTTGAGGAGGTTCTGGATTTGGTGGACGCCGTCATCCTTACG GAAAAGACAGCCCTGCACCTCCGGGCTCGGCGGAACTTCCGGGACTTCAGGGGAGTGTCCCGCCGCACTGGGGAG GAGTGGCTGGTAACAGTGCAGGACACAGAGGCCCACGTGCCAGATGTCCACGAGGAGGTGCTGGGGGTTGTGCCC ATCACCACCTGGGCCCCCACACTACTGCGTGATTCTCGACCCTGTCGGACCGGATGGCAAGAATCAGCTGGGG GTGTATGTGCTGTCGGAGCAGCAGGGGCTGCTGCTGAGGGCCCCTGCAGCCCCTGGAGGAGGAGGATGAGGAG AAGGTCTCACACCAGGCTGGGGACCACTGGCTCATCCGCGGACCCCTGGAGTATGTGCCATCTGCCAAAGTGGAG GTGGTGGAGGAGCGCCAGGCCATCCCTCTAGACGAGAACGAGGGCATCTATGTGCAGGATGTCAAGACCGGAAAG GTGCGCGCTGTGATTGGAAGCACCTACATGCTGACCCAGGACGAAGTCCTGTGGGAGAAAGAGCTGCCTCCCGGG GTGGAGGAGCTGCTGAACAAGGGGCAGGACCCTCTGGCAGACAGGGGTGAGAAGGACACAGCTAAGAGCCTCCAG CCCTTGGCGCCCCGGAACAAGACCCGTGTGGTCAGCTACCGCGTGCCCCACAACGCTGCGGTGCAGGTGTACGAC TACCGAGAGAGCCGAGCCCGCGTGGTCTTCGGGCCTGAGCTGGTGTCGCTGGGTCCTGAGGAGCAGTTCACAGTG TTGTCCCTCTCAGCTGGGCGGCCCAAGCGTCCCCATGCCCGCCGTGCGCTTGCCTGCTGCTGGGGCCTGACTTC TTCACAGACGTCATCACCATCGAAACGGCGGATCATGCCAGGCTGCAACTGCAGCTGGCCTACAACTGGCACTTT GAGGTGAATGACCGGAAGGACCCCCAAGAGACGCCCAAGCTCTTTTCAGTGCCAGACTTTGTAGGTGATGCCTGC AAAGCCATCGCATCCCGGGTGCGGGGGCCCTGGCCTCTGTCACTTTCGATGACTTCCATAAGAACTCAGCCCGC ATCATTCGCACTGCTGTCTTTGGCTTTGAGACCTCGGAAGCGAAGGGCCCCGATGGCATGGCCCTGCCCAGGCCC CAGAGGACCCGGGACGCCCTGCAACGCAGCGTCCAGCTGGCCATCGAGATCACCACCAACTCCCAGGAAGCGGCG GAAGCCGAGAAAGCTCGCAAGGAACTTTTGGAGCTGGAGGCTCTGAGCATGGCCGTGGAGAGCACCGGGACTGCC AAGGCGGAGGCCGAGTCCCGTGCGGAGGCAGCCCGGATTGAGGGAGAAGGGTCCGTGCTGCAGGCCAAGCTAAAA GCACAGGCCTTGGCCATTGAAACGGAGGCTGAGCTCCAGAGGGTCCAGAAGGTCCGAGAGCTGGAACTGGTCTAT ATGACAGAGGCCATAGGCCCCAGCACCATCAGGGACCTTGCTGTGGCTGGGCCTGAGATGCAGGTAAAACTGCTC CAGTCCCTGGGCCTGAAATCAACCCTCATCACCGATGGCTCCACTCCCATCAACCTCTTCAACACAGCCTTTGGG CTGCTGGGGATGGGGCCCGAGGGTCAGCCCCTGGGCAGAAGGGTGGCCAGTGGGCCCAGCCCTGGGGAGGGGATA TCCCCCCAGTCTGCTCAGGCCCCTCAAGCTCCTGGAGACAACCACGTGGTGCCTGTACTGCGC<u>TAA</u>CTCCTGATT

MATEEFIIRIPPYHYIHVLDQNSNVSRVEVGPKTYIRQDNERVLFAPMRMVTVPPRHYCTVANPVSRDAQGLVLF
DVTGQVRLRHADLEIRLAQDFFPLYPGEVLEKDITPLQVVLPNTALHLKALLDFEDKDGDKVVAGDEWLFEGPGT
YIPRKEVEVVEIIQATIIRQNQALRLRARKECWDRDGKERVTGEEWLVTTVGAYLPAVFEEVLDLVDAVILTEKT
ALHLRARRNFRDFRGVSRRTGEEWLVTVQDTEAHVPDVHEEVLGVVPITTLGPHNYCVILDPVGPDGKNQLGQKR
VVKGEKSFFLQPGEQLEQGIQDVYVLSEQQGLLLRALQPLEEGEDEEKVSHQAGDHWLIRGPLEYVPSAKVEVVE
ERQAIPLDENEGIYVQDVKTGKVRAVIGSTYMLTQDEVLWEKELPPGVEELLNKGQDPLADRGEKDTAKSLQPLA
PRNKTRVVSYRVPHNAAVQVYDYREKRARVVFGPELVSLGPEEQFTVLSLSAGRPKRPHARRALCLLLGPDFFTD
VITIETADHARLQLQLAYNWHFEVNDRKDPQETAKLFSVPDFVGDACKAIASRVRGAVASVTFDDFHKNSARIIR
TAVFGFETSEAKGPDGMALPRPRDQAVFPQNGLVVSSVDVQSVEPVDQRTRDALQRSVQLAIEITTNSQEAAAKH
EAQRLEQEARGRLERQKILDQSEAEKARKELLELEALSMAVESTGTAKAEAESRAEAARIEGEGSVLQAKLKAQA
LAIETEAELQRVQKVRELELVYARAQLELEVSKAQQLAEVEVKKFKQMTEAIGPSTIRDLAVAGPEMQVKLLQSL
GLKSTLITDGSTPINLFNTAFGLLGMGPEGQPLGRRVASGPSPGEGISPQSAQAPQAPGDNHVVPVLR

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 $\tt GGCACGAGGCTGCCCTAGTGGCCT\\ \underline{\textbf{ATG}} \texttt{TCCCTTGCTCGGGGCCATGGAGACACTGCGGCCAGTACGGCGGCCGCCCT}$ $\tt CTGTCTGAAGAAGGGGAAGTGACCTCCGGCCTCCAGGCTCTGGCCGTGGAGGATACCGGAGGCCCCTCTGCCTCG$ GCCGGTAAGGCCGAGGACGAGGGGGAAGGAGGCCGAGAGGAGCCGAGGGGGTCCGGGGGCGAGGAGGCG CAGGGAGAAGTCCCCAGCGCTGGGGGAGAAGAGCCTGCCGAGGAGGACTCCGAGGACTGGTGCCCTGCAGC TTTGATTTTGATGATGAGCCAGTGACACCAAAGGACTCCCTGATTGACCGGAGACGCACCCCAGGAAGCTCAGCC CGGAGCCAGAAACGGGAGGCCCGCCTGGACAAGGTGCTGTCGGACATGAAGAAGAACACAAGAAGCTGGAGGAGCAG ${\tt TCCGGGAGTAGTCTCTCCCTCGGCAGCGGAAATAC} \underline{{\tt TGA}} \\ {\tt TTCCCACTGCTCCTGCCTCTAGGGTGCAGTGTCCGT}$ ACCTGCTGGAGCCTGGGCCCTCCTTCCCCAGCCCAGACATTGAGAAACTTGGGAAGAAGAGAGAAACCTCAAGCT GAGAGTGTGTGTGTGTTTTCTATTGAACACCTATTCAGAGACCTGGACTGAATTTTCTGAGTCTGAAATAA

MSLARGHGDTAASTAAPLSEEGEVTSGLQALAVEDTGGPSASAGKAEDEGEGGREETEREGSGGEEAQGEVPSAG GEEPAEEDSEDWCVPCSDEEVELPADGQPWMPPPSEIQRLYELLAAHGTLELQAEILPRRPPTPEAQSEEERSDE EPEAKEEEEEKPHMPTEFDFDDEPVTPKDSLIDRRRTPGSSARSQKREARLDKVLSDMKRHKKLEEQILRTGRDL FSLDSEDPSPASPPLRSSGSSLFPRQRKY

 ${\tt CCCAACCTCGACGGTCGCCGTGGCCCGGTCGCGTTGCCTTGGAGAAGAAGACAAAGAGCAAGGGGCCCTACAT}$ $\tt CTGCGCTCTGTGCGCCAAGGAGTTCAAGAACGGCTACAATCTCCGGAGGCACGAAGCCATCCACACGGGAGCCAA$ GGCCGGCCGGGTCCCCTCGGGTGCTATGAAGATGCCGACCATGGTGCCCCTGAGCCTCCTGAGCGTGCCCCAGCT GACCACGACCGCCTCGGGGAAGCCATCCGGAAGAACCATGCCTGCGAGATGTGTGGCAAGGCCTTCCGCGACGT $\tt CTACCACCTGAACCGACACAAGCTGTCGCACTCGGACGAGAAGCCCTACCAGTGCCCGGTGTGCCAGCAGCGCTT$ CAAGCGCAAGGACCGCATGAGCTACCACGTGCGCTCACATGACGGCGCTGTGCACAAGCCCTACAACTGCTCCCA CTGTGGCAAGAGCTTCTCCCGGCCGGATCACCTCAACAGTCACGTCAGACAAGTGCACTCAACAGAACGGCCCTT CAAATGTGAGAAATGTGAGGCAGCTTTCGCCACGAAGGATCGGCTGCGGGCGCACACAGTACGACACGAGGAGAA AGTGCCATGTCACGTGTGTGGCAAGATGCTGAGCTCGGCTTATATTTCGGACCACATGAAGGTGCACAGCCAGGG TCCTCACCATGTCTGTGAGCTCTGCAACAAAGGTACTGGTGAGGTTTGTCCAATGGCGGCGGCAGCGGCAGCGGC AGAGTCCCTTGGTACAAGCTCCTCTCCCCCCTCTTTTCCCACCAACTCCTATTTCCCTACCAACCAAGGAGCCTC CAGAAGGAAAGGAAGAAATGTTTTCTTAGGGGAATTC

TCGCCGTGGCCCCGGTCGCGTCTGCCTTGGAGAAGAAGACAAAGAGCAAGGGGCCCTACATCTGCGCTCTGTGCG CCTCGGGTGCTATGAAGATGCCGACCATGGTGCCCCTGAGCCTCCTGAGCGTGCCCCAGCTGAGCGGAGCCGGCG CGGGGAAGCGCATCCGGAAGAACCATGCCTGCGAGATGTGTGGCAAGGCCTTCCGCGACGTCTACCACCTGAACC GACACAAGCTGTCGCACTCGGACGAGAAGCCCTACCAGTGCCCGGTGTGCCAGCAGCGCTTCAAGCGCAAGGACC GCATGAGCTACCACGTGCGCTCACATGACGGCGCTGTGCACAAGCCCTACAACTGCTCCCACTGTGGCAAGAGCT TCTCCCGGCCGGATCACCTCAACAGTCACGTCAGACAAGTGCACTCAACAGAACGGCCCTTCAAATGTGAGAAAT TGTGTGGCAAGATGCTGAGCTCGGCTTATATTTCGGACCACATGAAGGTGCACAGCCAGGGTCCTCACCATGTCT GTGAGCTCTGCAACAAAGGCTTCACCACGGCAGCATACCTGCGCATCCACGGGGTGAAGGACCACGGGCTCCAGG TGCAGACCCATCTGGGGGGGGCCGCCCCCTGTCCCGGGAGACGCCCCCCAGCCACAGCCCACCTGCTGAGGGGG GGCAGCAGTAGCAGCCCTCCCACAGCTGTGGGCTCCCTCTCGGGGGCGGAGGGGGTGCCTGTGAGCTCTCAGCC ACTTCCCTCCCAACCCTGGTGAGCTCCAAGTTGGTTGCGGGGGAGAGGGGGAGAATGGAGTAGAGTCCCTTGGTAC AAGAAATGTTTTCTTAGGGGAATTCGCTAGGTTTTAACGATTTGTTTCTCCTGCTCCTCTTCTGTCAGACCTGAC CCACTGCCGTACCCCTCTCTCTGTAAGCCCATGCCCTGTCTTCCCAGGGACTTGTGAGCCTCTTCCCTCG TCCTTTTTTTTTTTTCCAGGGGGAGGGAGGAGGAGGAGGAGGGGGATCAGAGCTGTCCCAAAGAGGGAAAGCG GTGAGGTTTGAGGAGGGCAGAAGCAGGCCGGCAAAGGTTGTACCTTCATAAGGTGGTATGGGGGGTTGGGGTC AGGCCCTGAACATCGTCCTACTTGAGAATCTGTCAGGGGAAAAAGTCAAGGGGAGCAGGAGGAAGACCCAGGAGG GCCAGAGGCAGAGAAGAGATGGAGTCTTAGGGGCCAGGGTGAGCGAGGGGTCCAGGGCCTAGAGGTGCTTCCTGG GGGCGGGGAATGCAGCCAGTGTCCCCCTCCCCTCTTCCACCCCAGCTCCAGCCCTGGTCTTGTCTTTTCATCCC TCTTCCCCACGACAGAAGAAGTTGTGGCCCTGGCCATGTCATCGTGTTCCTGTGTCCCCTGCATGTACCCCACCC TCCACCCCTTCCTTTTGCGCGGACCCCATTACAATAAATTTTAAATA

MKMPTMVPLSLLSVPQLSGAGGGGEAGAGGGAAAVAAGGVVTTTASGKRIRKNHACEMCGKAFRDVYHLNRHKL SHSDEKPYQCPVCQQRFKRKDRMSYHVRSHDGAVHKPYNCSHCGKSFSRPDHLNSHVRQVHSTERPFKCEKCEAA FATKDRLRAHTVRHEEKVPCHVCGKMLSSAYISDHMKVHSQGPHHVCELCNKGFTTAAYLRIHAVKDHGLQAPRA DRILCKLCSVHCKTPAQLAGHMQTHLGGAAPLSRETPPSHSPPAEGDPRTHQVLVRFVQWRRQRQRRQRQQRQQ

GGGCGGGCCCAAGGAGGGAGTGGA<u>ATG</u>GCCGCGGGCGGCTCGACGCAGAGGCGACGCGACATGGCGGCAGCT TCAGCGGCGGCGATCTCAGGAGCTGGTCGCTGTCGGCTAAGCAAGATTGGAGCTACTCGTCGTCCACCTCCAGCT GGCATGGACAGCTGCTCTAGAGATTGCTAACTGGAGGAACCACCAGGAGACTCTCAAATACCAGTTTGATGCC TTCTATGGGGAGAGGAGTACTCAGCAGGACATCTATGCAGGTTCAGTGCAGCCCATCCTAAGGCACTTGCTGGAA GGGCAGAATGCCAGTGTGCTTGCCTATGGACCCACAGGAGCTGGGAAGACGCACACAATGCTGGGCAGCCCAGAG TGGGCCCTTTCTGTCACCATGTCTTACCTAGAGATCTACCAGGAGAAGGTATTAGACCTCCTGGACCCTGCTTCG GGAGACCTGGTAATCCGAGAAGACTGCCGGGGGAATATCCTGATTCCGGGTCTCTCCCAGAAGCCCATCAGTAGC TTTGCTGATTTTGAGCGGCACTTCCTGCCAGCCAGTCGAAATCGGACTGTAGGAGCCACCCGGCTCAACCAGCGC TCCTCCCGCAGTCATGCTGTCCTGGTCAAGGTGGACCAGCGGGAACGTTTGGCCCCATTTCGCCAGCGAGAG GGAAAACTCTACCTGATTGACTTGGCTGGGTCAGAGGACAACCGGCGCACAGGCAACAAGGGCCTTCGGCTAAAA GTACCTTATCGGGACAGCAAGCTCACTCGCCTATTGCAGGACTCTCTGGGTGGCTCAGCCCACAGTATCCTTATT GCCAACATTGCCCCTGAGAGACGCTTCTACCTAGACACAGTCTCCGCACTCAACTTTGCTGCCAGGTCCAAGGAG GCTCCAGCCTCTGCCTCCCAGAAACTCAGCCCCCTACAGAAGCTAAGCAGCATGGACCCGGCCATGCTGGAGCGC CTCCTCAGCTTGGACCGTCTGCTTGCCTCCCAGGGGGAGCCAGGGGGCCCCTCTGTTGAGTACCCCAAAGCGAGAG CGGATGGTGCTAATGAAGACAGTAGAAGAGAAGGACCTAGAGATTGAGAGGCTTAAGACGAAGCAAAAAGAACTG GAGGCCAAGATGTTGGCCCAGAAGGCTGAGGAAAAGGAGACCATTGTCCCACAATGCTCCGGCCCCTTTCACAT TCCCCAAATGCCGAGATCCACATCCTGAAGAATAAAGGCCGGAAGAGAAAGCTGGAGTCCCTGGATGCCCTAGAG CCTGAGGAGAAGGCTGAGGACTGCTGGGAGCTACAGATCAGCCCGGAGCTACTGGCTCATGGGCGCCAAAAAATA CTGGATCTGCTGAACGAAGGCTCAGCCCGAGATCTCCGCAGTCTTCAGCGCATTGGCCCGAAGAAGGCCCAGCTA ATCGTGGCTGGCGGAGCTCCACGGCCCCTTCAGCCAGGTGGAGGACCTGGAACGCGTGGAGGGCATAACGGGG TCGTCTCCTCACTCCGCCTTTTCAAATTTTTGTATAACCCCGTGTTGTGTAAATACAGTTTTTGCTCCGGTG

MAAGGSTQQRREMAAASAAAISGAGRCRLSKIGATRRPPPARVRVAVRLRPFVDGTAGASDPPCVRGMDSCSLE IANWRNHQETLKYQFDAFYGERSTQQDIYAGSVQPILRHLLEGQNASVLAYGPTGAGKTHTMLGSPEQPGVIPRA LMDLLQLTREEGAEGRPWALSVTMSYLEIYQEKVLDLLDPASGDLVIREDCRGNILIPGLSQKPISSFADFERHF LPASRNRTVGATRLNQRSSRSHAVLLVKVDQRERLAPFRQREGKLYLIDLAGSEDNRRTGNKGLRLKESGAINTS LFVLGKVVDALNQGLPRVPYRDSKLTRLLQDSLGGSAHSILIANIAPERRFYLDTVSALNFAARSKEVINRPFTN ESLQPHALGPVKLSQKELLGPPEAKRARGPEEEEIGSPEPMAAPASASQKLSPLQKLSSMDPAMLERLLSLDRLL ASQGSQGAPLLSTPKRERMVLMKTVEEKDLEIERLKTKQKELEAKMLAQKAEEKENHCPTMLRPLSHRTVTGAKP LKKAVVMPLQLIQEQAASPNAEIHILKNKGRKRKLESLDALEPEEKAEDCWELQISPELLAHGRQKILDLLNEGS ARDLRSLQRIGPKKAQLIVGWRELHGPFSQVEDLERVEGITGKQMESFLKANILGLAAGQRCGAS

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GTCCTGAGCAGCCAACACCAGCCCAGACAGCTGCAAGTCACCATCGAAGGCCTGGAAGGCCTGGCGCTGCTGCTGC CGCCCGTCACCCTGGCAGCCCTGGTGGACAGCTGGCTCCGAGAGACTGCCCAGGGCTCAACTACGCAGCCTTGG TCAGCGGGCCAGGCCCTCGCAGGCGCGCTGTGGGCCAAATCCCCTGGGGTACTGGCAGGCCAGCCTTTCTTCG ATGCCATATTTACCCAACTCAACTGCCAAGTCTCCTGGTTCCTCCCCGAGGGATCGAAGCTGGTGCCGGTGGCCA GAGTGGCCGAGGTCCGGGGCCCTGCCCACTGCCTGCTGCTGGGGGAACGGGTGGCCCTCAACACGCTGGCCCGCT GCAGTGGCATTGCCAGTGCCGCCGCTGCAGTGGAGGCCGCCAGGGGGGCCCGCTGGACTGGCACGTGGCAG GCACGAGGAAGACCACGCCAGGCTTCCGGCTGGTGGAGAAGTATGGGCTCCTGGTGGGCCGGGCCGCCTCGCACC GCTACGACCTGGGAGGGCTGGTGATGGTGAAGGATAACCATGTGGTGGCCGCCGGTGGCGTGGAAGGCGGTGC GGGCGGCCAGACAGGCGGCTGACTTCACTCTGAAGGTGGAATGCAGCAGCCTGCAGGAGGCCGTGCAGG ${\tt CAGCTGAGGCTGGTGCCGACCTTGTCCTGGACAACTTCAAGCCAGAGGAGCTGCACCCCACGGCCACCGTGC}$ TGAAGGCCCAGTTCCCGAGTGTGGCTGTGGAAGCCAGTGGGGGCATCACCCTGGACAACCTCCCCAGTTCTGCG GGCCGCACATAGACGTCATCTCCATGGGGATGCTGACCCAGGCGGCCCCAGCCCTTGATTTCTCCCTCAAGCTGT TTGCCAAAGAGGTGGCTCCAGTGCCCAAAATCCAC<u>TAG</u>TCCTAAACCGGAAGAGGATGACACCGGCCATGGGTTA ACGTGGCTCCTCAGGACCCTCTGGGTCACACATCTTTAGGGTCAGTGGCCCAATGGGGCACATTTGGCACTAGCTT GAGCCCAACTCTGGCTCTGCCACCTGCTGCTCCTGTGACCTGTCAGGGCTGACTTCACCTCTGCTCATCTCAGTT TCCTAATCTGTAAAATGGGTCTAATAAAGGATCAACC

MDAEGLALLLPPVTLAALVDSWLREDCPGLNYAALVSGAGPSQAALWAKSPGVLAGQPFFDAIFTQLNCQVSWFL PEGSKLVPVARVAEVRGPAHCLLLGERVALNTLARCSGIASAAAAAVEAARGAGWTGHVAGTRKTTPGFRLVEKY GLLVGGAASHRYDLGGLVMVKDNHVVAAGGVEKAVRAARQAADFTLKVEVECSSLQEAVQAAEAGADLVLLDNFK PEELHPTATVLKAQFPSVAVEASGGITLDNLPQFCGPHIDVISMGMLTQAAPALDFSLKLFAKEVAPVPKIH

GCCTCGGGAGGTGGTGAGCTGGCCCCAGTGCTGCGTCCTTATCAGCCGAGCCGGTCCCAGCTCTTGCTCC GCACAACAGCAGTGCAGACACCCACCTCCGGAGAGCCTTTGGTCTCTACTAGCGAGCCCCTGAGCTCAAAGATGT ACACCACTTCAATAACAAGTGACCCTAAGGCCGACAGCACTGGGGACCAGACCTCAGCCCTACCTCCAACTT CCATCAATGAGGGATCCCCTCTTTGGACTTCCATTGGTGCCAGCACTGGTTCCCCTTTACCTGAGCCAACAACCT ACCAGGAAGTTTCCATCAAGATGTCATCAGTGCCCCAGGAAACCCCTCATGCAACCAGTCATCCTGCTGTTCCCA TAACAGCAAACTCTCTAGGATCCCACACCGTGACAGGTGGAACCATAACAACGAACTCTCCAGAAACCTCCAGTA GGACCAGTGGAGCCCCTGTTACCACGGCAGCTAGCTCTCTGGAGACCTCCAGAGGCACCTCTGGACCCCCTCTTA AGACCTCCACTGGGACCACTGGACCCCTGTTACCATGACAACTGGCTCTCTGGAGCCCTCCAGCGGGGCCAGTG GACCCCAGGTCTCTAGCGTAAAACTATCTACAATGATGTCTCCAACGACCTCCACCAACGCAAGCACTGTGCCCT TCCGGAACCCAGATGAGAACTCACGAGGCATGCTGCCAGTGGCTGTGTGGCCCTGCTGGCGGTCATAGTCC TCGTGGCTCTGCTGCTGCTGGCGCCGGCGGCAGAAGCGGCGGACTGGGGCCCTCGTGCTGAGCAGAGGTGGCA GAGGGTCCGGGGGCGACAAGGGCTCTGGGTTCCCCGATGGGGAGGGGTCTAGCCGTCGGCCCACGCTCACCACTT TCTTTGGCAGACGGAAGTCTCGCCAGGGCTCCCTGGCGATGGAGGAGCTGAAGTCTGGGTCAGGCCCCAGCCTCA CCCTCTCACCACCCCCCCCCCCCCCCCCATGTTTCCACCCGGCACCCTGATCCTCACCCGAATCTCCTTTT TTTTTTTTTTTTGAGACAGAGTTTCGCTTTGTCGCCCAGGCTGGAGTGCAATGCACGATCTCAGTTCACTGCAAC GCCCAGCTGCTTTTTTGTATTTTTGGTAGAGATGGGGTTTCACCATGTTGGCTAGGCTGGTCTCAAACTCCTGAC CTCAGGTGATCTACCTGCCTCAGCCTCCCAAAGTGCTGAGATTACAGACATGAGCCTCCGCGCCCTTGCCTCCA CCCACCTCTTCACTCTGAATCCTCATGAGGCTTCTCAGCCCTGGATTTCCTGCTGCCATCCTCACCCAGCACCCA CCCC

FIGURE 4512

MATLLLLGVLVVSPDALGSTTAVQTPTSGEPLVSTSEPLSSKMYTTSITSDPKADSTGDQTSALPPSTSINEGS PLWTSIGASTGSPLPEPTTYQEVSIKMSSVPQETPHATSHPAVPITANSLGSHTVTGGTITTNSPETSSRTSGAP VTTAASSLETSRGTSGPPLTMATVSLETSKGTSGPPVTMATDSLETSTGTTGPPVTMTTGSLEPSSGASGPQVSS VKLSTMMSPTTSTNASTVPFRNPDENSRGMLPVAVLVALLAVIVLVALLLLLWRRRQKRRTGALVLSRGGKRNGVV DAWAGPAQVPEEGAVTVTVGGSGGDKGSGFPDGEGSSRRPTLTTFFGRRKSRQGSLAMEELKSGSGPSLKGEEEP LVASEDGAVDAPAPDEPEGGDGAAP

GGTAACTTCTTGATGTTGCCGTGGCATTTGTAAACTGTCATGGTGCTGGTAGGAGTGTAGCAGGGAGGATGATGG GAGGTCAGTCTTGTCTCTATTTTGGTTTTTGGTGGGTTTTTGGCCAGCTCCTTCACTGCAACCTGTTTTATCAGCAA GGTCTTTATGACTGGTATTTTGTGCTGACCTTCTATGTCATCCTGTGACTTAGAATGCCTTAACCATCAGGGAAT GCAGCCCAGTAGTTTCAGCCTCATTTTTCCCGGCTCCTATTTAAGATGGAGTTGCTCTGGTTCACACACCTCTGA CATGATCATTGCCCACTGCGGCTTCCACCTCCCGGGTTCAAGAGATCCTCCTGCCTCACCCTCCCAAGGTGCTGG GGCTGGTCTCAAACTCCTGGGCTCAAGCAATCCTTCTGTCTCAGCCTCCCAAAGTACTGGGATTACAGGCATGTC CCACCATGCCCAGACTAATATTTACTTTTAATCAGACTAAGATAGGGTTACTACTTGAGTTGCTATGGCTCCAGC TGAAAGAAGCCCGTGCAGTCATATCACGCGTAAACATTTGCTTTATGCTAAAAATATGGTGGACCTGGCATTAC AGCTATTACAAATCTCCTAAGATGTCTCGGGTAGTGTATTAGTTACTTTTCATACTGCTATGAAGAAATACTGGA AACTGGGTAATTTATAAAGAAAAGAGGTTTAATGTACTCACAGTTCCACAAGGCTGGAGAGGCCTCAGAATCAT TATAAAACCATCAGATTTAGTGAGATGTATTCACTATCACGAGAACAGTATGGGAAAAACCTGCCCCCATGATTC GATTACCTCCTACCGGGTCCCTCCCACGACACATGGGGATTATGGGAACTACAATTCAAGATGAAATTTGGGTGG GGACGCAGCCAAACCATATCGGGTAGCAACAACCTAGGGTCAGTTTTGCAGGTGGTAAAGCCATTTACCAAGATA GTTGTAGGTAAAGAAGGGCAGATTTATTAGAGAAAATTGTGAAAAATATGTTGCAGTGGGCAGCTCAGCAGAGAAGG GGCTACCTGCAAAGAGGCAAGGGCTGGAGGAAAGTTTTATAGGGTCCTGCTGAAGGGTGCTACGTGTGGAATGAG GTCATTGTGCCCGCAGGTTGTTTGTGATTAGCTGTTTCTAACAATTGTTCATACAATAATTGTTCATTATTGTTC GGAAACTTCATTCATATCTTCAACACAAATTGTAGGTAGCCTGTTTTTTAAAACATTTATTCAACAAATAT TTAGTCCAAGCCACTATTACTTATTACCTTCTCTACTATTGTATGGACTTTTAACTATCTCTGACACTATTCACT ATTCTTCCACATTCTCTATTATTTATACCTATGGTAAAATTTGCCAGTTTGACCATACAACTAATACTCACAGGG AATATATAGAGTCTAGAAGAAAATATACAGGTCCTTAAAGGCTGCCCTGCCAACAAAACCATAACGCAGGAACAA ACATCACAACTATGCCAAATAATCAATCCTACAATGTCCAAAATTTTACTTTAAAACTGGAATTTCCAGACTTCC TATTTATTTATTTGAGACAGAGTTTCGCTCTTGTTGCAGTGAGCCAGGATCATGCCATTGCACTCCAGCCT

MASAKSLDRWKARLLEGGSTALTYALVRAEVSFPAEVAPVRQQGSVAGARAGVVSLLGCRSSWTAAMELSAEYLR EKLQRDLEAEHVLPSPGGVGQVRGETAASETQVLYRVMRCVTAANQVFFSEAVLTAANERVGVLLGSLDPSMTIH CDMVITYGLDQLENCQTCGTDYIISVLNLLTLIVEQINTKLPSSFVEKLFIPSSKLLFLRYHKEKEVVAVARAVY QAVLSLKNIPVLETAYKLILGEMTCALNNLLHSLQLPESCSEIKHEAFKNHVFNVDNAKFVVKFDLSALTTIGNA KNSLIGVSL

TCAGCGGGCGAGTCCCCGGCTCCTCCAGCTCCTCCTCCTCCTCCTCCTCCACCTCCGGCTTTTGGGGG ${\tt ATCACTGTCCTCTCGGCAGCAGAATGAGCCGGCAGGTGGTCCGCTCCAGCAAGTTCCGCCACGTGTTTGGACA}$ GCCGGCCAAGGCCGACCAGTGCTATGAAGATGTGCGCGTCTCACAGACCACCTGGGACAGTGGCTTCTGTGCTGT TGGACGTGTGGACAAGAATGCGCCCACGGTCTGTGGCCACACACCCCTGTGCTAGACATCGCCTGGTGCCCGCA CAATGACAACGTCATTGCCAGTGGCTCCGAGGACTGCACAGTCATGGTGTGGGAGATCCCGGATGGGGGCCTGAT AGCCCAGAACGTGCTGCTCAGTGCAGGTTGTGACAACGTGATCATGGTGTGGGACGTGGGCACTGGGGCCGCCAT GCTGACACTGGGCCCAGAGGTGCACCCAGACACGATCTACAGTGTGGACTGGAGCCGAGATGGAGGCCTCATTTG TACCTCCTGCCGTGACAAGCGCGTGCGCATCATCGAGCCCCGCAAAGGCACTGTCGTAGCTGAGAAGGACCGTCC ${\tt CCACGAGGGGACCCGGCCCGTGCGTGCAGTGTTCGTGTCGGAGGGGAAGATCCTGACCACGGGCTTCAGCCGCAT}$ GAGTGAGCGGCAGGTGGCGCTGTGGGACACAAAGCACCTGGAGGAGCCGCTGTCCCTGCAGGAGCTGGACACCAG ${\tt CAGCGGTGTCCTGCCCTTCTTTGACCCTGACACCAACATCGTCTACCTCTGTGGCAAGGGTGACAGCTCAAT}$ CCGGTACTTTGAGATCACTTCCGAGGCCCCTTTCCTGCACTATCTCTCCATGTTCAGTTCCAAGGAGTCCCAGCG GGGCATGGGCTACATGCCCAAACGTGGCCTGGAGGTGAACAAGTGTGAGATCGCCAGGTTCTACAAGCTGCACGA CGCAGGGCCCGACCCTCACGGCTGAGGAGTGGCTGGGGGGTCGGGATGCTGGGCCCCTCCTCATCTCCCT AGCACCAGAGGCCAGTGCCACCTCCGGATGCCGTGTCTCGGCTGGAGGAGGAGATGCGGAAGCTCCAGGC ${\tt CACGGTGCAGGAGCTCCAGAAGCGCTTGGACAGGCTGGAGGAGACAGTCCAGGCCAAG{\color{red}{\bf TAG}}{\tt AGCCCCGCAGGGCCCAGGCCCAGGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCAGGCCAGGCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCAGGCCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCAGGCCCCAGGCCCAGGCCCAGGCCCAGGCCAGGCCAGGCCCAGGCCCAGGCCAGGCCAGGCCCAGGCCCAGGCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCCAGGCCCCAGGCCCCAGGCCCAGGCCAGGCCCAGGCCCAGGCCCCAGGCCCCAGGCCCAGGCCCCAGGCCCAGGCCCCAGGCCCAGGCCCAGGCCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCAGGCCCCAGGCCCAGGCCCAGGCCCAGGCCCCAGGCCCAGGCCCAGGCCCAGGCCCCAGGCCCCAGGCCCCAGGCCCCAGGCCCCAGGCCCCCAGGCCCCAGGCCCCAGGCCCCAGGCCCCAGGCCCCAGGCCCCAGGCCCCAGGCCCCA$ TCCAGCAGGGTCAGCCATTCACACCCATCCACTCCCCATTCCCAGCCACATGGCAGAGAAAAAAATCATAA **GGGGGGGA**

MSRQVVRSSKFRHVFGQPAKADQCYEDVRVSQTTWDSGFCAVNPKFVALICEASGGAFLVLPLGKTGRVDKNAP
TVCGHTAPVLDIAWCPHNDNVIASGSEDCTVMVWEIPDGGLMLPLREPVVTLEGHTKRVGIVAWHTTAQNVLLSA
GCDNVIMVWDVGTGAAMLTLGPEVHPDTIYSVDWSRDGGLICTSCRDKRVRIIEPRKGTVVAEKDRPHEGTRPVR
AVFVSEGKILTTGFSRMSERQVALWDTKHLEEPLSLQELDTSSGVLLPFFDPDTNIVYLCGKGDSSIRYFEITSE
APFLHYLSMFSSKESQRGMGYMPKRGLEVNKCEIARFYKLHERRCEPIAMTVPRKSDLFQEDLYPPTAGPDPALT
AEEWLGGRDAGPLLISLKDGYVPPKSRELRVNRGLDTGRRRAAPEASGTPSSDAVSRLEEEMRKLQATVQELQKR
LDRLEETVQAK

GCCACGAAGGCCGGAGAGCCGGAACCGGAGTCGCAGCGGCGGAGACCCCTGTGCGGTGCGGAGGGGGGCGGCGCCC $\tt CCGACTCTGACCCGCGCGGGGGGGGGGCC\underline{ATG}GCGGAGATCAGCGACCTGGACCGGCAGATCGAGCAGCTGCGTC$ GCTGCGAGCTCATCAAGGAGAGCGAAGTCAAGGCCCTGTGCGCTAAGGCCAGAGAGATCTTGGTAGAGGAGAGACA ACGTGCAGAGGGTGGACTCGCCAGTCACAGTGTGCGGCGACATCCATGGACAATTCTATGACCTCAAAGAGCTGT TCAGAGTAGGTGGCGACGTCCCTGAGACCAACTACCTCTTCATGGGGGACTTTGTGGACCGTGGCTTCTATAGCG TCGAAACGTTCCTCCTGCTGCTGCCACTTAAGGTTCGCTATCCTGATCGCATCACACTGATCCGGGGCAACCATG AGAGTCGCCAGATCACGCAGGTCTATGGCTTCTACGATGAGTGCCTGCGCAAGTACGGCTCGGTGACTGTGTGGC GCTACTGCACTGAGATCTTTGACTACCTCAGCCTGTCAGCCATCATCGATGGCAAGATCTTCTGCGTGCACGGGG GCCTCTCCCCCCCCATCCAGACCCTGGATCAGATTCGGACAATCGACCGAAAGCAAGAGGTGCCTCATGATGGGC CCATGTGTGACCTCCTCTGGTCTGACCCAGAAGACACCACAGGCTGGGGCGTGAGCCCCCGAGGAGCCGGCTACC TATTTGGCAGTGACGTGGCCCAGTTCAACGCAGCCAATGACATTGACATGATCTGCCGTGCCCACCAACTGG TGATGGAAGGTTACAAGTGGCACTTCAATGAGACGGTGCTCACTGTGTGGTCGGCACCCAACTACTGCTACCGCT GTGGGAATGTGGCAGCCATCTTGGAGCTGGACGAGCATCTCCAGAAAGATTTCATCATCTTTGAGGCTGCTCCCC $\texttt{AAGAGACACGGGGCATCCCCTCCAAGAAGCCCGTGGCCGACTACTTCCTG} \underline{\textbf{TGA}} \texttt{CCCCGCCCGGCCCCTGCCCCCT}$ AAAA

MAEISDLDRQIEQLRRCELIKESEVKALCAKAREILVEESNVQRVDSPVTVCGDIHGQFYDLKELFRVGGDVPET
NYLFMGDFVDRGFYSVETFLLLLALKVRYPDRITLIRGNHESRQITQVYGFYDECLRKYGSVTVWRYCTEIFDYL
SLSAIIDGKIFCVHGGLSPSIQTLDQIRTIDRKQEVPHDGPMCDLLWSDPEDTTGWGVSPRGAGYLFGSDVVAQF
NAANDIDMICRAHQLVMEGYKWHFNETVLTVWSAPNYCYRCGNVAAILELDEHLQKDFIIFEAAPQETRGIPSKK
PVADYFL

AGTACCGGGTACGCAGGGGTGCCTCAACCACACTCCGTCCACGGACTCTCCGTTATTTTAGGAGGTCCCTGGCCA ${\tt TTGCTACTACCAGCACC{\color{blue} {\bf ATG}}{\tt CCCTACCAATATCCAGCACTGACCCCGGAGCAGAAGAAGGAGCTGTCTGACATCG}}$ CTCACCGCATCGTGGCACCTGGCAAGGGCATCCTGGCTGCAGATGAGTCCACTGGGAGCATTGCCAAGCGGCTGC AGTCCATTGGCACCGAGAACACCGAGGAGAACCGGCGCTTCTACCGCCAGCTGCTGACAGCTGACGACCGCG TGAACCCCTGCATTGGGGGTGTCATCCTCTTCCATGAGACACTCTACCAGAAGGCGGATGATGGGCGTCCCTTCC $\verb|CCCAAGTTATCAAATCCAAGGGGGGTGTTGTGGGCATCAAGGTAGACAAGGGCGTGGTCCCCCTGGCAGGGACAA|$ ATGGCGAGACTACCACCCAAGGGTTGGATGGGCTGTCTGAGCGCTGTGCCCAGTACAAGAAGGACGGAGCTGACT TCGCCAAGTGGCGTTGTGTGCTGAAGATTGGGGAACACACCCCCTCAGCCCTCGCCATCATGGAAAATGCCAATG TTCTGGCCCGTTATGCCAGTATCTGCCAGCAGAATGGCATTGTGCCCATCGTGGAGCCTGAGATCCTCCCTGATG ACCACATCTACCTGGAAGGCACCTTGCTGAAGCCCAACATGGTCACCCCAGGCCATGCTTGCACTCAGAAGTTTT CTCATGAGGAGATTGCCATGGCGACCGTCACAGCGCTGCGCCGCACAGTGCCCCCCGCTGTCACTGGGATCACCT ACCTGAAGGCTGCGCAGGAGGAGTATGTCAAGCGAGCCCTGGCCAACAGCCTTGCCTGTCAAGGAAAGTACACTC $\tt CGAGCGGTCAGGCTGCTGCCAGCGAGTCCCTCTTCGTCTCTAACCACGCCTAT\underline{TAA}_{\tt GCGGAGGTGTTCC}$ CAGGCTGCCCCAACAACTCCAGGCCCTGCCCCTCCCACTCTTGAAGAGGAGGCCGCCTCCTCGGGGCTCCAGG TTTCCGGCACACTGCCAAATAAACAGCTATTTAAGGGGG

MPYQYPALTPEQKKELSDIAHRIVAPGKGILAADESTGSIAKRLQSIGTENTEENRRFYRQLLLTADDRVNPCIG GVILFHETLYQKADDGRPFPQVIKSKGGVVGIKVDKGVVPLAGTNGETTTQGLDGLSERCAQYKKDGADFAKWRC VLKIGEHTPSALAIMENANVLARYASICQQNGIVPIVEPEILPDGDHDLKRCQYVTEKVLAAVYKALSDHHIYLE GTLLKPNMVTPGHACTQKFSHEEIAMATVTALRRTVPPAVTGITFLSGGQSEEEASINLNAINKCPLLKPWALTF SYGRALQASALKAWGGKKENLKAAQEEYVKRALANSLACQGKYTPSGQAGAAASESLFVSNHAY

4901/6881 FIGURE 4522

GGCACGAGGCGGCCTCCCTGCCCTTCACGGCCCGCCTGCCCAAGTCCTGAGCCACCATGCTGACCC CGATGGTGGCCGGGGGGGTGTTCCCCGGACTCTTCCTCCTCCAAGAACACGCTCCAGCGGCTGCCCCAGC TACGCTGGGAGGAGGCCGACGCAGTCATTGTCTCAGCCAGGCTGGTGTCCTCTGTCCAGGCCATCATCGCCTCCA CTGCCGGCTACATCGTCTCCACCTCCTGCAAGCACATCATTGATGACCAACACTGGCTGTCCTCTGCCTACACGC AATTTGCTGTGCCCTACTTCATCTACGACATCTACGCCATGTTCCTCTGTCACTGGCACAAGCACCAGGTCAAAG GCCATGGAGGGGACGACGGCCAGAGCCCCGGGCAGCACGTGGGCCATAGCGCGTGGCTACCTGCACAAGG AGTTCCTCATGGTGCTCCACCATGCCGCCATGGTGCTGGTGTGCTTCCCACTCTCAGTGGTGTGGCGACAGGGTA AGGGAGACTTCTTTCTGGGTTGCATGTTGATGGCAGAGGTCAGCACGCCCTTCGTCTGCCTTGGCAAGATCCTCA GGGTGCTGCTCTTTCCCTACCTGTACTGGGCCTACGGGCGCCATGCCGGCCTGCCCCTGCTGGCCGTGCCCCTGG GGTCCTCTTGCCCGGACAACCCCAGGACTGACGATGACCCCGAAAGGGAAGAGGCCCCATCTCTCGGGGACTGAG GGGGTGGAGAGAGGGGACCTCTTCCCCCTACTCTGCCCCCTTCCTGCACACCCTTGCGCTGGAGGAGGGGAGGGG TCAGAATGTGGGGAGACGCCTCTGCCAAGGCCATCCCAGCCCCTATGCTGCCATCCCCAGGGCTCCCCATCACC CGAGAGGAGGACGCCCCAACTAACCCCCGCTGGCCCTCGGGCCTCCCGAGTGGCCGGCTGCAACCACGGCTCC GGGGGAAGGAGGTGGCTGCTACCCCCAAGCCTTCCCAGTGCTGACAACCCCGGGGGCAGGCGAGGGCGCCCAGTC $\tt CCTCACCATCGGCTGCACATCGCGCCCTCGGGCCCTGCCATGTCCCTGGTGCTACTGACCTCTCAAGGCTTCCTC$ CAATCTGGGGTCGGGGGACCCTGGGAGGTGCTTTACAGACCGCTAATAAAAGACGATCTGCGTGAACGCCAAAAA ΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑ

MASTAGYIVSTSCKHIIDDQHWLSSAYTQFAVPYFIYDIYAMFLCHWHKHQVKGHGGDDGAARAPGSTWAIARGY LHKEFLMVLHHAAMVLVCFPLSVVWRQGKGDFFLGCMLMAEVSTPFVCLGKILIQYKQQHTLLHKVNGALMLLSF LCCRVLLFPYLYWAYGRHAGLPLLAVPLAIPAHVNLGAALLLAPQLYWFFLICRGACRLFWPRSRPPPACQAQD

4903/6881 FIGURE 4524

 ${\tt MRNLGDKSFCGFKCLSTLESGTALSSVRHFCGVTASLLRLGVAGGQTLGATPGPVMNGPADGEVDYKKKYRNLKRKLKFLIYEHECFQEELRKAQRKLLKVSRDKSFLLDRLLQYENVDEDSSDSDATASSDNSETEGTPKLSDTPAPKR}$

 ${\tt CCGAGGTTCCTCATCTGCCGGAGGATGCCTTTTCTCTTCTGCCTTGCGAAATAACAGCAGCCTAGCTGTTGCC}$ CGTGACCAGTGAGAAAGGCAGCGTCGCGGGCTGATTAGGTTTCACCCAAAGGGTGCCGGCGCCGAATTGGTTTCT AACGAGAACTTTTAAAATGATCCGTTCCAAAAAAGGGTAGGAGCCCGCGAGACCCTCCAACTGCCCAGAGAAAACA AGCACTGCGCGTGCGAGCCGCTGTCAAACGCGCTGACGGAGGCCGAGAAGAAAAAAAGGCGGGAGCCGTCAAT $\verb|CCCGGGTTGAGCAAAATGGCGCGGGAGAAGGAGTTCACCCGTAGCTTCTTCCGAGGCCGCCCGGAC| \\$ CTCAGCACGCTTACGCATTCCATCGTGCGGCGGAGGTACTTAGCTCACTCGGGCCGCAGCCACCTGGAGCCCGAG GAGAAGCAGGCACTGAAGCGGCTGGTGGAGGAGGAGCTGCTGAAGATGCAGGTGGATGAAGCCGCTTCCAGGGAA GACAAACTGGACCTTACCAAGAAGGGCAAGAGGCCTCCCACCCCTTGTAGCGACCCGGAGAAAAAAGGTTCCGC TTCAATTCAGAGTCGGAGTCCGGCTCTGAAGCCTCCAGCCCAGACTACTTTGGACCCCCAGCAAAGAATGGGGTG GCAGCAGAAGTCAGCCCAACGAGAGAATCCAAGGCGAGCCTCAAAGGCAGTTGAGGAGAGCAGTGATGAG GAACGGCAGAGGGACCTGCCCGCACAGAGGGGAGAGGAGGAGGAGGAGGAGAAAAGGGGTACAAGGGGAAG AGTGAGGAGAGCGAGGCAGAACCCGTTCAGAGGACAGCAAAGAAGGTGGAGGGAAATAAAGGAACTAAAAGCCTG GAAGAGAAGAGAGGATGAGGAAAAGGGGGATTGGAAACCCAGAACCAGGAGCAATGGCCGGAGAAAGTCAGCT AGGGAGGAGGAGGCTGTAAGCAGAAAAGCCAGGCAAAGAGGCTCTTGGGAGACTCAGACAGCGAGGAAGAGCAG AAAGAGCCAGCCAGTGGGGATGACAGTGGGAGAGATAGAGAACCCCCAGTGCAGAGGAAGAGTGAGGACAGG ACCCAGCTTAAGGGTGGGAAGAGGTTGAGTGGAAGCAGCGAGGACGAGGACAGTGGGAAGGGGGAACCCACA GACAGCGAGGCAGGGGGAGGCCCCCAGGGGGAGAGAACACCGCTCTTCCAAGAAGACTCCAGGAAAGGCAGG GAGGACCACCCGGCTGTGATGAGGCTGAAGCGCTACATTCGGGCCTGTGGTGCCCATCGAAACTACAAGAAGCTG TTGGGCTCCTGTTGCTCACACAAGGAGCGCCTGAGTATCCTCCGGGCAGAACTGGAAGCGCTAGGCATGAAGGGT GCGAACATCATCAGTGGCTCGGGCCGCCACGCAGACGTACAGCCTGGAACCCTTTAGGAGAAGCACCACCCCA GGGGAGCTGTACCGACGGACCCTGGACTCAGATGAAGAGCGGCCCCGTCCCGCACCCCCAGACTGGTCACATATG CGTGGCATCATCAGCAGTGATGGCGAGAGTAACTGAGCTCTGCCACCCCCAGGAGGGGCCCTTGATACATGTACA GGACACAAGCTGTTGGGATGCTACTTCTCAGCTTCACGCTGTCCCTTTAAGGTGTTTATTTTTTAAGACTCAATA AAGGAGTGTTTTTAATCACCTC

AGCAGGGTCTCACTCTGTCACCCAGGCTGGAGTGCAGTGGCGCAGTTATAGCTCACTGCAGCCTTGAACTCCTGG GCTCAAGTGATCCTTCCACCTCAGCCTCCCTAGTAGCTGGGACCACAGGTGGTGACTTCCAAGAGTGACTCCGTC GGAGGAAAATGACTCCCCAGTCGCTGCAGACGACACTGTTCCTGCTGAGTCTGCTCTTCCTGGTCCAAGGTG ACAAACCCACACCAGACCTGCGCATCTCCATCGAGAACTCCGAAGAGGCCCTCACAGTCCATGCCCCTTTCCCTG CAGCCCACCCTGCTTCCCGATCCTTCCCTGACCCCAGGGGCCTCTACCACTTCTGCCTCTACTGGAACCGACATG $\tt CTGGGAGATTACATCTTCTCTATGGCAAGCGTGACTTCTTGCTGAGTGACAAAGCCTCTAGCCTCCTCTGCTTCC$ AGCACCAGGAGAGAGCCTGGCTCAGGGCCCCCCGCTGTTAGCCACTTCTGTCACCTCCTGGTGGAGCCCTCAGA ACATCAGCCTGCCCAGTGCCGCCAGCTTCACCTTCTCCTTCCACAGTCCTCCCCACACGGCCGCTCACAATGCCT CGGTGGACATGTGCGAGCTCAAAAGGGACCTCCAGCTGCTCAGCCAGTTCCTGAAGCATCCCCAGAAGGCCTCAA GGAGGCCCTCGGCTGCCCCCCCCCAGCCAGCTTGCAGAGCCTGGAGTCGAAACTGACCTCTGTGAGATTCATGG GGGACATGGTGTCCTTCGAGGAGGACCGGATCAACGCCACGGTGTGGAAGCTCCAGCCCACAGCCGGCCTCCAGG ACCTGCACATCCACTCCCGGCAGGAGGAGGAGCAGAGCGAGATCATGGAGTACTCGGTGCTGCTCCTACACAC TCTTCCAGAGGACGAAAGGCCGGAGCGGGAGGCTGAGAAGAGACTCCTCCTGGTGGACTTCAGCAGCCAAGCCC TGTTCCAGGACAAGAATTCCAGCCAAGTCCTGGGTGAGAAGGTCTTGGGGATTGTGGTACAGAACACCAAAGTAG CCAACCTCACGGAGCCCGTGGTGCTCACTTTCCAGCACCAGCTACAGCCGAAGAATGTGACTCTGCAATGTGTGT TCTGGGTTGAAGACCCCACATGTGACAGCCCGGGCATTGGAGCAGTGCTGGGTGTGAGACCGTCAGGAGAAA CCCAAACATCCTGCTTCTGCAACCACTTGACCTACTTTGCAGTGCTGATGGTCTCCTCGGTGGAGGTGGACGCCG CCGCCTACCTCTGCTCCAGGGTGCCCCTGCCGTGCAGGAGGAAACCTCGGGACTACACCATCAAGGTGCACATGA ACCTGCTGCTGGCCGTCTTCCTGCTGGACACGAGCTTCCTGCTCAGCGGGCCGGTGGCCCTGACAGGCTCTGAGG CTGGCTGCCGAGCCAGTGCCATCTTCCTGCACTTCTCCCTGCTCACCTGCCTTTCCTGGATGGGCCTCGAGGGGT ACAACCTCTACCGACTCGTGGAGGTCTTTGGCACCTATGTCCCTGGCTACCTAAGCTGAGCGCCATGG GCTGGGGCTTCCCCATCTTTCTGGTGACGCTGGTGGCCCTGGTGGATGTGGACAACTATGGCCCCATCATCTTGG CTGTGCATAGGACTCCAGAGGGCGTCATCTACCCTTCCATGTGCTGGATCCGGGACTCCCTGGTCAGCTACATCA CCAACCTGGGCCTCTTCAGCCTGGTGTTTCTGTTCAACATGGCCATGCTAGCCACCATGGTGGTGCAGATCCTGC GGCTGCGCCCCACACCCAAAAGTGGTCACATGTGCTGACACTGCTGGGCCTCAGCCTGGTCCTTGGCCTGCCCT GGGCCTTGATCTTCTCCTTTGCTTCTGGCACCTTCCAGCTTGTCGTCCTCTACCTTTTCAGCATCACCT CCTTCCAAGGCTTCCTCATCTCATCTGGTACTGGTCCATGCGGCTGCAGGCCCGGGGTGGCCCCTCCCCTCTGA AGAGCAACTCAGACAGCGCCAGGCTCCCCATCAGCTCGGGCAGCACCTCGTCCAGCCGCATCTAGGCCTCCAGCC CCATGCTGCCTAGGGTACTGTCCCCACATCTGTCCCAACCCAGCTGGAGGCCTGGTCTCTCTTACAACCCCTGG GCCCAGCCCTCATTGCTGGGGGCCAGGCCTTGGATCTTGAGGGTCTGGCACATCCTTAATCCTGTGCCCCTGCCT GGGACAGAAATGTGGCTCCAGTTGCTCTGTCTCTCGTGGTCACCCTGAGGGCACTCTGCATCCTCTGTCATTTTA ACCTCAGGTGGCACCCAGGGCGAATGGGGCCCAGGGCAGACCTTCAGGGCCAGAGCCCTGGCGGAGGAGAGGCCC TTTGCCAGGAGCACAGCAGCTCGCCTACCTCTGAGCCC

 ${\tt AGGGCTTCCTGAAGAATGAGAAGGACAATGCCCTGCTGTCTGCCATCGAAGAGTCCCGGAAGAGGACCTTCGGC\underline{A}}$ TGGCTGAGGAGTACCATCGGGAGTCAATGTTGGTTGAGTGGGAGCAAGTGAAACAGCGAATTCTGCACACACTGC TGGCATCAGGAGAAGACGCCCTTGACTTTACTCAAGAAAGCGAGCCAAGCTACATCAGTGATGTGGGACCCCCTG GTCGAAGCTCTCTGGATAACATCGAGATGGCCTATGCGCGGCAAAT,TTATATCTATAATGAGAAAATTGTAAATG GACACCTGCAGCCTAACCTGGTGGACCTTTGTGCTTCCGTCGCAGAGCTCGATGATAAGAGCATTTCCGACATGT GGACCATGGTAAAACAAATGACAGACGTGTTGTTGACACCGGCAACGGATGCCCTGAAGAACCGCAGCAGCGTGG AAGTGCGCATGGAGTTTGTCAGGCAGGCCTTGGCGTACCTTGAGCAGAGTTATAAGAATTACACCCTTGTGACTG TCTTTGGAAATTTGCATCAGGCCCAGCTGGGCGGGGTGCCTGGGACTTACCAATTGGTTCGAAGTTTCCTGAACA TTAAACTGCCAGCTCCCTTGCCTGGACTACAGGATGGAGAGGTGGAAGGCCATCCTGTGTGGGGCGCTAATTTACT ACTGCATGCGCTGTGGAGACCTGCTTGCCGCTTCACAGGTAGTTAATCGAGCCCAGCACCAGCTGGGAGAGTTTA AAACCTGGTTCCAGGAGTACATGAACAGCAAGGACAGAAGATTGTCCCCAGCTACGGAAAACAAGCTCCGGCTGC ATTACCGTAGGGCCCTCAGGAACAATACAGATCCCTACAAGCGGGCCGTGTACTGTATCATTGGCAGATGTGACG TCACCGACAACCAGAGTGAAGTGGCGGACAAAACTGAGGATTACCTGTGGCTGAAGTTGAACCAAGTGTGTTTTG ACGACGATGGCACCAGCTCCCCACAGACAGGCTCACTCTCACAGTTCCAGAAGCAGTTGTTGGAAGACTATG GCGAGTCCCACTTTACGGTGAACCAGCAACCCTTCCTACTTCCAAGTCCTGTTCCTGACAGCGCAGTTTGAAG CAGCAGTTGCCTTTCTTTCCGCATGGAGCGGCTGCGCTGCCATGCTGTCCATGTAGCACTGGTGCTGTTTGAGC GGCGGCTGAACTTCGTGCGGCTCCTCATGCTGTACACCCGGAAGTTTGAGTCCACGGACCCAAGGGAGGCCCTCC TGATTGAAAGCCGAGAGTTCGATATGATTCTTGGGAAACTAGAGAATGACGGAAGTAGAAAGCCTGGAGTCATAG ATAAGTTTACTAGTGACACAAAGCCTATTATCAACAAAGTTGCTTCTGTGGCAGAAAATAAAGGACTGTTTGAAG AGGCAGCAAAGCTGTATGACCTTGCCAAGAATGCTGACAAGGTACTGGAGCTGATGAACAAACTGCTGAGCCCTG TCGTCCCCCAGATCAGTGCCCCGCAATCCAACAAGGAGAGGCTGAAGAACATGGCACTCTCCATTGCCGAACGGT ATAGGGCTCAAGGAATAAGCGCAAATAAATTTGTGGACTCCACGTTCTATCTTCTTTTGGACTTGATCACCTTTT TTGACGAGTATCATAGTGGTCATATTGATAGAGCTTTTGATATCATTGAGCGCTTGAAGCTGGTGCCCCTGAATC AGGAAAGTGTGGAAGAGAGAGTGGCTGCCTTCAGAAATTTCAGTGATGAAATCAGGCACAACCTCTCAGAAGTGC TTCTTGCCACCATGAACATCTTGTTCACACAGTTTAAGAGGCTCAAGGGGACAAGTCCATCCTCGTCATCCAGGC CCCAGCGAGTCATCGAGGACCGCGACTCTCAACTCCGAAGTCAAGCCCGCACTCTGATTACCTTTGCTGGAATGA ${\tt TACCATACCGAACGTCTGGGGACACCAATGCGAGGCTGGTGCAGATGGAGGTCCTCATGAAT \underline{{\tt TAA}}{\tt GTGCCATGCT}$ TTGTGGGAGTCTGGGTCGCACACTGTCAGTACATCAGGCACATGGGCCCACTAGGCTGGGGTTTCTGGTTTTGT TTCTGTTGTGTTTTGTTTTGGTTTCTGTATTATGTATTTTTGTCAACGCCAATAAATTTCTTTGATTTGT

MAEEYHRESMLVEWEQVKQRILHTLLASGEDALDFTQESEPSYISDVGPPGRSSLDNIEMAYARQIYIYNEKIVN GHLQPNLVDLCASVAELDDKSISDMWTMVKQMTDVLLTPATDALKNRSSVEVRMEFVRQALAYLEQSYKNYTLVT VFGNLHQAQLGGVPGTYQLVRSFLNIKLPAPLPGLQDGEVEGHPVWALIYYCMRCGDLLAASQVVNRAQHQLGEF KTWFQEYMNSKDRRLSPATENKLRLHYRRALRNNTDPYKRAVYCIIGRCDVTDNQSEVADKTEDYLWLKLNQVCF DDDGTSSPQDRLTLSQFQKQLLEDYGESHFTVNQQPFLYFQVLFLTAQFEAAVAFLFRMERLRCHAVHVALVLFE LKLLKSSGQSAQLLSHEPGDPPCLRRLNFVRLLMLYTRKFESTDPREALQYFYFLRDEKDSQGENMFLRCVSEL VIESREFDMILGKLENDGSRKPGVIDKFTSDTKPIINKVASVAENKGLFEEAAKLYDLAKNADKVLELMNKLLSP VVPQISAPQSNKERLKNMALSIAERYRAQGISANKFVDSTFYLLLDLITFFDEYHSGHIDRAFDIIERLKLVPLN QESVEERVAAFRNFSDEIRHNLSEVLLATMNILFTQFKRLKGTSPSSSSRPQRVIEDRDSQLRSQARTLITFAGM IPYRTSGDTNARLVQMEVLMN

 $\verb|CCGACACCGCCGCCGCCATG| GAGTCCGAGACCGAGCCCGTCACGCTCCTGGTGAAGAGCCCCAACC| \\$ AGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGCTGGAGTGTGGGCCACCTCAAGGCCCACCTGAGCCGCG TCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCTGTTGTTGGATCACCAATGTC TCAGGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGGTGTGCAATGTGAAGAGTCCTTCAAAAA TGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCCTGCTGGTTCTAATCGGGGACAGTATCCTGAGG ATTCCTCAAGTGATGGTTTAAGGCAAAGGGAAGTTCTTCGGAACCTTTCTTCCCCTGGATGGGAAAACATCTCAA GGCCTGAAGCTGCCCAGCAGGCATTCCAAGGCCTGGGTCCTGGTTTCTCCGGTTACACACCCTATGGGTGGCTTC AGCTTTCCTGGTTCCAGCAGATATATGCACGACAGTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGG CTTTTGTTCCACCACGAGTGCACAAGAGATACCTGTGGTCTCTGCACCTGCTCCAGCCCCTATTCACAACCAGT TTCCAGCTGAAAACCAGCCTGCCAATCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATT ATTCAGCAGCTACATTTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCCTCATGGTCA TGGGGGCCACCGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTCAGAACTTCC CAAATGATGGTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGATCCTGAAA CTGAAGACCCCAACCACCTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCCTCCTTTATGAGCA ${\tt CAGCATGGCTTGTCTTCAAGACTTTCTTTGCCTCTTCTTCCAGAAGGCCCCCCAGCCATCGCAAAC{\tt TGA}{\tt TGGT}$ GTTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGACTCCAGCTAGATTGCCTCTCCTG TGAAGCCGTGATACAAATTGGTGAACAAAAAATGCCCAAGGCTTCTCATGTCTTTATTCTGAAGAGCTTTAATAT ATACTCTATGTAGTTTAATAAGCACTGTACGTAGAAGGCCTTAGGTGTTGCATGTCTATGCTTGAGGAACTTTTC CAAATGTGTGTGTCTGCATGTGTTTTGTACATAGAAGTCATAGATGCAGAAGTGGTTCTGCTGGTACGATTTGA TTCCTGTTGGAATGTTTAAATTACACTAAGTGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGC AGGACTTTTCTAGGAAAGACTTATGTATAATTGCTTTTTAAAATGCAGTGCTTTACTTTAAACTAAGGGGAACTT AAAAAAAA

 $\label{tepepvtlvkspnqrhrdlelsgdrgwsvghlkahlsrvyperpredorliysgklldhqclrdllpk \\ QEKRHVLHLVCNVKSPSKMPEINAKVAESTEEPAGSNRGQYPEDSSSDGLRQREVLRNLSSPGWENISRPEAAQQ \\ AFQGLGPGFSGYTPYGWLQLSWFQQIYARQYYMQYLAATAASGAFVPPPSAQEIPVVSAPAPAPIHNQFPAENQP \\ ANQNAAPQVVVNPGANQNLRMNAQGGPIVEEDDEINRDWLDWTYSAATFSVFLSILYFYSSLSRFLMVMGATVVM \\ YLHHVGWFPFRPRPVQNFPNDGPPPDVVNQDPNNNLQEGTDPETEDPNHLPPDRDVLDGEQTSPSFMSTAWLVFK \\ TFFASLLPEGPPAIAN$

GCCCGGCCGAGCAGCAGCTCCCGGGGATGCCCGGGCGGCTCGGAGCGGGCAGCGGCAGCCGTGCGGTGAG GGCGGTGGCCCCGCGGGACCTGCCACGGAACTCCTGCCACCGCCACCGGCTCCCATGGCCCACATACCC AGTGGGGGTGCCCCAGCAGCGGGGCAGCCCCCATGGGCCCCCAGTATTGCGTGTGCAAGGTGGAGCTGTCAGTG AGTGGCCAGAACCTACTGGACCGGGATGTTACCTCCAAGTCCGACCCCTTCTGTGTCCTCTTTACAGAGAACAAT GGCAGATGGATCGAGTACGACAGGACAGAAACCGCGATCAACAACCTCAACCCCGCCTTCTCCAAGAAGTTCGTG CTTGACTACCACTTCGAGGAGGTACAGAAGCTCAAGTTCGCGCTCTTTGACCAGGACAAGTCCAGTATGCGGCTG GACGAGCATGACTTCCTGGGCCAGTTCTCCTGCAGCCTGGGCACGATCGTCTCCAGCAAGAAGATCACTAGGCCT CTGCTGCTGCTGAATGACAAGCCTGCGGGGAAGGGCTTGATTACGATCGCTGCCCAGGAGCTGTCCGACAACCGC GTCATCACACTAAGCCTGGCGGGCAGGAGGCTGGACAAGAAGGACCTCTTTGGGAAGTCAGACCCCTTTCTGGAG TTTTATAAGCCAGGAGACGATGGCAAGTGGATGCTGGTCCACAGGACTGAGGTGATCAAGTACACACTGGACCCT GTGTGGAAGCCATTCACAGTGCCCTTGGTGTCCCTGTGTGATGGGGACATGGAGAAGCCCATCCAGGTCATGTGC TACGACTATGACAATGACGGGGGCCATGACTTCATCGGCGAGTTCCAGACCTCAGTGTCACAGATGTGTGAGGCCT CGAGACAGCGTCCCGCTGGAGTTCGAGTGCATCAACCCCAAGAAGCAGAGGAAGAAGAAGAACTATAAAAACTCG CTCATGTTCACCGTTGGAATAGACTTTACAGCCTCCAACGGGAATCCCCTCGACCCTTCCTCTTTGCACTATATC AACCCTATGGGCACCAACGAATATCTGTCGGCCATCTGGGCTGTTGGGCAGATCATTCAGGACTACGACAGTGAT AAGATGTTTCCAGCTCTGGGATTCGGGGCCCAGTTACCCCCAGACTGGAAGGTCTCCCATGAGTTTGCCATCAAC CGCTTCTACGGTCCTACCAATTTCTCCCCCATCGTCAACCACGTGGCCCGGTTTGCGGCCCAGGCCACACAG GCCGTGGTGCAGGCTTCCAAGCTGCCCATGTCCATCATCATCGTGGGCGTGGGCAATGCGGACTTCGCTGCCATG GAGTTCCTGGATGGGGACAGCCGCATGCTGCGCTCCCACACGGGGGAGGCGCAGCCCGCGATATTGTGCAGTTC GTTCCCTTTCGAGAGTTCCGCAACGCAGCAAAAGAGACCTTGGCCAAAGCTGTGCTGGCGGAGCTGCCCCAACAA GTTGTGCAGTATTTCAAGCATAAAAACCTGCCCCCACCAACTCGGAGCCCGCCTGAGCTCCAGTGCCCAGCAGC TTACCGATCCCCTTTTTTATTTTTTACAACCGGACCTCCACCCCCAACTTCCTCCAGCCCAGCTGGGCTTCCTTT GTTGGAGTCAACTGTTGATGCTTCCAGGCCAAACTGGCTTCCTCCTCCTCCTCCCCACCTTTGCCATTCTTAAG TATTGAATGTACTTTGTATAATTTTAGTGGAATTGTTATTGAGAATAAAATTTTTACAATCAT

MRLDEHDFLGQFSCSLGTIVSSKKITRPLLLLNDKPAGKGLITIAAQELSDNRVITLSLAGRRLDKKDLFGKSDP FLEFYKPGDDGKWMLVHRTEVIKYTLDPVWKPFTVPLVSLCDGDMEKPIQVMCYDYDNDGGHDFIGEFQTSVSQM CEARDSVPLEFECINPKKQRKKKNYKNSGIIILRSCKINRDYSFLDYILGGCQLMFTVGIDFTASNGNPLDPSSL HYINPMGTNEYLSAIWAVGQIIQDYDSDKMFPALGFGAQLPPDWKVSHEFAINFNPTNPFCSGVDGIAQAYSACL PHIRFYGPTNFSPIVNHVARFAAQATQQRTATQYFILLIITDGVISDMEETRHAVVQASKLPMSIIIVGVGNADF AAMEFLDGDSRMLRSHTGEEAARDIVQFVPFREFRNAAKETLAKAVLAELPQQVVQYFKHKNLPPTNSEPA

CGGTGGCGCCGCGCAGTCACCGCGGAGCAGACGCGGAGGCTGGTGGCCCCTGGGCGAGATGCCGTACGCCAACCA GCCTACCGTGCGGATCACGGAGCTCACTGACGAGAATGTCAAGTTCATCGAGAACACCGACCTGGCGGTGGC ${\tt CAATTCGATTCGGAGGGTCTTCATCGCTGAGGTTCCCATAATAGCCATTGACTGGGTTCAGATTGATGCCAATTCCAATTCCCAATTCCAATTCCCAATTCCAAT$ CTCAGTTCTTCATGATGAATTCATTGCTCACAGGCTTGGATTAATTCCCCTCATTAGTGATGACATTGTGGACAA ${\tt GCTGCAGTACTCTCGGGACTGCACATGTGAGGAGTTCTGCCCCGAGTGCTCGGTGGAGTTCACCCTCGATGTGCG}$ GTGCAATGAAGACCAGACGCGACATGTCACGTCTCGAGACCTCATCTCCAACAGCCCCCGGGTCATTCCGGTGAC ATCCCGGAACCGAGATAATGACCCCAATGACTACGTGGAGCAGGATGACATCCTCATCGTCAAGTTGAGAAAGGG CCAGGAGCTGAGACTTCGAGCCTATGCCAAAAAGGGCTTTGGCAAGGAGCATGCCAAGTGGAACCCTACTGCAGG GGTGGCTTTTGAATACGATCCAGACAATGCCCTGAGGCACACAGTGTACCCCAAGCCCGAGGAATGGCCAAAGAG TGAGTACTCGGAGCTGGATGAGGATGAGTCGCAGGCTCCCTATGACCCCAACGGCAAGCCAGAAAGGTTTTACTA CAATGTGGAGTCCTGTGGCTCTCTGCGTCCTGAAACCATTGTCCTGTCAGCCCTCTCAGGATTGAAGAAGAAACT GAGTGATTTACAAACTCAATTAAGCCACGAGATCCAGAGTGATGTGCTAACCATAAATTAACTGCAGCTTGCCTG GGATGCAGTGGTGTTTAGGCAGGATAGGTCTTTACTGGCCCTGACTGCTGTTAATAATTGGCAGCAGTGCTCCCC AGATCCCAGAAGGTCCCTGCTGGAGTGTTTCCAGTGCACCTGTAGGGGAACCAACTAGACTTCTCTCCTGGTTAGT CCAGCTCTTTACTCTAAACCCTTTCTGTCCAAAATGAGTCATTTTCAGTTGTACCTTAGATGTCTGGTGTTGAGG ATCAAGTGCCATAGCCTTTATTCAGGGGGCCTATAAACCCTTCCAGTTCTTGCCCCAGGGCTGGCCTGCTAGCGC TTCAAATTCCCAGGTGTCCCTAATTTGAGAAGTAACCTTTTGGAATAGCATTAGACCCTGGCTGTCCCCTACCCCA CCAAATAAACATGATATTTCATTCTCTGTCCAGCAGTCATGAACCCCTTCACCTCCAATGACCTGATCATTTAGT TTGGTGGGGGTGGGGGTGGGGGTGGAAGCAGCCGCAGGAGCAAGGGCCCCTCCCACATACACAGGAGGA GTATTTCATTTCTCCTTAATGAAGGCTCTGGCCCTAACCCCTCAGCACTGTCTCCAGATAGGAACATGCACAAAG TGTCTTTTTAAAAGTGTTTATTTTTGGCAATAAAGAGCACAACAT

CCCGGCGCCGCCGCCCTGCCGCCCCGCCAGCCGCGCGTGACGCGGGCATGAGCCTGCTCCGCGGCGCGC CGGGTGAGGTGAGGAGCAGCCCCTCGCGGCAGCCCCGACAGAGTGTCTGGAACAGGTGATTGGAGGAGCCGGAGA CCCAGGCACCTGGGCATCCTTCCCCTCGCCTCTGCCAGGCCCCGCGCCCCTAAAAGGTGGGAAAACCATGGCGAC CAATTTCAGTGACATCGTCAAGCAAGGCTACGTGAAGATGAAGAGCAGGAAGCTCGGGATCTACCGGAGGTGCTG GCTGGTGTTCCGGAAATCCTCCAGCAAGGGGCCCCAGCGGCTGGAGAAGTATCCAGATGAGAAGTCGGTGTGCCT CCGGGGCTGCCCCAAGGTGACTGAGATCAGCAACGTCAAGTGTGTTACGCGGCTCCCCAAGGAGACCAAGCGGCA GGCGGTGGCCATCATATTCACTGATGACTCGGCACGTACCTTCACCTGCGACTCAGAGCTAGAGGCAGAGGAGTG GTACAAGACACTATCTGTGGAGTGTCTGGGGTCCCGCCTCAACGACATCAGTCTGGGAGAACCTGACCTCCTGGC CCCAGGGGTGCAGTGTGAACAGACAGATCGCTTCAATGTCTTCCTGCTGCCCCCAACCTGGACGTGTATGG CGAGTGCAAGCTGCAGATCACCCACGAGAACATCTACCTCTGGGACATCCACAACCCCCGTGTGAAGCTCGTCTC GTGGCCCTCTGCTCACTGCGCCGCTATGGCCGGGATGCCACACGCTTTACCTTCGAGGCTGGCCGGATGTGTGA TGCTGGGGAAGGACTCTATACCTTCCAGACACAAGAGGGGGGAGCAGATTTACCAGCGCGTCCACAGTGCCACCCT GGCCATCGCAGAGCACACAGCGGGTCCTGCTGGAAATGGAGAACGTGAGGCTGCTGAACAAGGGCACGGA ACATTACTCGTATCCCTGCACACCCACGACCATGCTGCCGCGCAGTGCCTACTGGCACCACATCACTGGTTCCCA GAACATCGCCGAAGCCTCCAGCTATGCTGGTGAGGGGTATGGGGCCAGCCCAGGCCAGCTCGGAAACAGACCTCCT TGAGGCAAAGGGCTGGCCACACCACCTGAGCATGTGTGAGGGGTTGGAGCTACCGTGGGACTATATACTGTTAAT GATTTTAATATATATGCCTTATGACATACTCTGTATCAATGAGATCCCCTCACCCTCACCCCATCCTTCCCCACC AATACACAAATTTTTTAATCCCATGACCAGGCCACGGTCAAGGCTGTTTTTGAGTATGAGTGCAGTCGTGTCC ATCCTCCATGGCACAGCCCTCCTGCTGCCAGGACCTGCTTGAACTACCAGGGCCACAGGAGGGGGATAATCAGAG CTTGAGGCTGGCACTCTGACTGCTTGTCCCAAACAGCCCAAGGGCCGGAACAGCAGGTGGCTTCTCAGTTC CTCTGGGCCTGGAGTGACACAGGAAGGATCTGCACTTCCTCTGTGCTGCTTGCCAGCCTTGCAGTTGGAGTTTTA AGCAGAGGTGACATCTGGTTGACGCCTCAGGTGAAAATCTGGTTTTAAAATGTAACTTCTGCACAGGCTCCTTCC TGCTTTGTAGGCTGGGAAGATGCCCCTGGGGTAGGGGTGCTGATTACCTCAGCCATGTGGAGGAAGGCTGGAGCT TGTTCCTGCCCCAGGAATAGGCCAGGAGGGAAGGCCGCAGCAGGACTGCCGTGGGGAGCACCCCTGCTGCCCCCC TCTCACTGACCAGGGGTGGACAATGCCCAAGCAGAGGGAGCCCCCTTGCCCTGTTTGGCCACCCTCTGGCCAGCC AAAAGCACTCTGAAACCAAGACCTTCCCATTCCTCCCCACATGGTGCTGAGGCTCCCTGCTGCAATGCAATT AAAGCAATTGATTTCTAGTGCTGGTATTTGTTGACTACCATGCAGAAGGGCTATCTTTCTATTCACGTCAAACT GACCTTCTTGTAAATAACCACTATTTGAGTTGTGGCAGGAGGATGATAAAGCACGCGGCCCCTCCCAAAGGAGCC CTTGAGCTAGGGAGGTGGTGCAGTCAGCCTCGCTCTCAACGTGACCCGGGGAATGACCACCAGAGGGATGAGCT ΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑ

MATNFSDIVKQGYVKMKSRKLGIYRRCWLVFRKSSSKGPQRLEKYPDEKSVCLRGCPKVTEISNVKCVTRLPKET KRQAVAIIFTDDSARTFTCDSELEAEEWYKTLSVECLGSRLNDISLGEPDLLAPGVQCEQTDRFNVFLLPCPNLD VYGECKLQITHENIYLWDIHNPRVKLVSWPLCSLRRYGRDATRFTFEAGRMCDAGEGLYTFQTQEGEQIYQRVHS ATLAIAEQHKRVLLEMEKNVRLLNKGTEHYSYPCTPTTMLPRSAYWHHITGSQNIAEASSYAGEGYGAAQASSET DLLNRFILLKPKPSQGDSSEAKTPSQ

(

ATTTTGTGGGTGGGGCTTCAGGTGCCAGCCAGCTGAAGGATGGCCACCCCTGTGGTCACCAAGACAGCCTGGAAG TTGCAAGAGATCGTCGCGCATGCCAGCAACGTGTCCTCACTGGTGCTGGGCAAAGCCTCCGGGCGGCTGCTGGCT ACAGGCGGGGATGACTGCCGCGTCAACCTGTGGTCCATCAACAACCCCAACTGCATCATGAGCCTGACGGGCCAC ACATCCCAGTGGAGAGCGTCCGCCTCAACACCCCCGAGGAGCTCATCGTGGCCGGCTCTCAGTCGGGCTCCATC CGTGTCTGGGACCTGGAAGCTGCCAAAATTCTTCGCACACTCATGGGACACAAAGCCAACATCTGCAGCCTGGAT TTCCACCCGTACGGCGAGTTTGTAGCCTCTGGTTCCCAGGACACAAACATCAAGCTCTGGGACATCAGGAGGAAA GGCTGTGTCTTCCGATACAGGGGGCACAGCCAGGCCGTGCGGTGTCTCCCGGTTCAGCCCCGATGGGAAGTGGTTG GCGTCGGCCGCAGATGACCACACCGTGAAGCTCTGGGATCTCACTGCCGGCAAGATGATGTCTGAGTTCCCTGGT CACACGGGGCCTGTCAACGTGGTCGAGTTTCACCCCAACGAGTACCTCCTGGCCTCCGGCAGCTCTGACAGGACA $\tt ATCCGCTTCTGGGACCTGGAGAAGTTCCAGGTGGTGAGCTGCATCGAAGGGGAGCCTGGGCCCGTCAGGAGCGTC$ CTCTTCAACCCAGACGGCTGCTGCCTGTACAGCGGCTGCCAGGACTCACTGCGTGTCTACGGCTGGGAACCTGAG CGGTGCTTTGATGTGGTCCTCGTCAACTGGGGCAAGGTGGCCGACCTGGCCATCTGCAATGACCAGTTGATAGGT GTGGCCTTCTCCCAGAGCAACGTCTCCTCCTACGTGGTGGATCTGACGCGTGTCACCAGGACTGGCACGGTGGCC $\tt CGGGACCCTGTGCAGGACCACCGGCCCCTGGCACAGCCACCCCAGCGCCCCCTCCGGCGCATCTAT$ AGCGAGGATGACCGGGACGAGGCCCGCGCGGAGATCCAGAACGCCGAGGACTACAACGAGATCTTCCAG CCCAAGAACAGCATCAGTCGGACGCCACCCCGGAGAAGTGAGCCCTTCCCTGCACCCCCAGAGGACGACGCAGCC ACAGCAAAGGAGGCAGCAAAGCCCAGCCCTGCCATGGATGTGCAGTTCCCGGTGCCAAATCTGGAGGTCCTGCCC CGGCCCCAGTGGTTGCTTCCACACCTGCACCCAAGGCTGAGCCTGCCATCATCCCTGCCACCCGGAACGAGCCC ATCGGGCTGAAGGCCTCCGACTTCCTGCCCGCCGTGAAGATCCCCCAGCAGGCCGAGCTGGTGGACGAGGATGCC CGGGCTGTGTGGACCATGGGCGACATCAAGACGTCGGTGGACTCCGCTGTGGCCATCAACGACCTGTCGGTGGTG GTGGACCTCCTGAACATCGTCAACCAGAAAGCCTCCCTGTGGAAGCTGGACCTGTGCACCACCGTCCTGCCACAG ATTGAGAAGCTTCTGCAGAGCAAGTATGAGAGCTACGTCCAGACGGGCTGCACCTCCCTGAAGCTGATCCTGCAG CTGCATAAGTGCCGGCTCTGCTACAAGCAGCTTAAGAGCATCAGCGGCCTGGTCAAGAGCAAGTCAGGCCTGAGC GGCCGCCATGGCAGTACCTTCCGCGAGCTGCACCTGCTCATGGCCAGTCTGGACTGAGGAAAGCAGTGGGCAGGG GCGCTCGGCAGCCCACAGGGCCTGGCCTCAGCCCCACTCCTGTTCCTTGTGCACCCACTGGCCCATGAGCCTCT GCCTGGCCCCTGCTGCTGTCCTGTGGCCGTCCTGGAGGAGGTGATGCTGGTCCCTGGCCACCTCTACAGCCCTGA ACTCTTGAGACAACTCTCCCAGCAATAGCTGCCCAGCTTTGCCCAACTGTTGCTTCTTGGGGCAGCGAACTGAG CCCTGGGGCTGCTGTAATTTATAAGGCAAATTTTATTAAATTTGTAACTATT

4917/6881 FIGURE 4538

GAGGGCGCTTCCGGCACAGCGGAACTCCGGGTGCCGGTTGAGGTTGCTGGTGGACCTGCTCTGGTGGTCTTGGAT GAGGCCCCATGAGCGCGCGCCCCTGGTGGGCTACAGCAGCAGCGGCTCCGAGGATGAGTCCGAGGACGGGATGC GGACCAGGCCGGGGGATGGGAGCCACCGTCGTGGCCAGAGCCCCCTTCCCAGGCAGAGATTTCCAGTACCTGACA GTGTGCTGAACATGTTCCCGGGCACCGAGGAGGGGCCTGAAGATGACAGCACAAAACACGGGGGACGGTGCGCA CCTTCCCCCACGAGCGAGCCAACTGGGCCACCCACGTCTATGTACCATATGAAGCCAAGGAGGAGTTCCTGGATC TGCTTGATGTTGCTGCCCCATGCCCAGACATATGTCCCCCGGCTGGTAAGGATGAAGGTGTTCCACCTCAGCC TGTCCCAGAGTGTGGTTCTGCGCCACCACTGGATCCTCCCCTTCGTGCAGGCTCTGAAAGCCCGTATGACCTCCT TCCACAGATTCTTCTTTACTGCCAACCAGGTAAAGATTTACACCAATCAAGAGAAAACCAGGACCTTTATTGGGC TTGAGGTCACTTCAGGGCATGCCCAGTTCCTGGACCTGGTTTCAGAGGTGGACAGAGTCATGGAGGAATTCAACC AGGGGCAGTGCCTGCAGGAACTACAGGCAATCGTGGATGGGTTTGAAGATGCTGAGGTGCTGCCGCGTGCACA CTGAGCAAGTCCGCTGCAAGTCTGGGAACAAGTTCTTCTCGATGCCTTTGAAGTGAGCACCAGAGGCCTTCCTCC TCCAGGGCCCTCTGCAGACCAGGCTGAGATGGAGGAACCTGCTAAAATCGATGGAGATGCTTCTAGCCTCCCAGT AGGAGGCCCCAGCCATGCCTTCAACCTGGCAGGAGGTGTAGCCACTCCTCATCCTCCCTGAGTGCTGATATTCTC TCGGCTGTTGTGGGTTGCAGGTTGGGTGCTGTTGTGGTCCTTCCCAGAAACTGCCAGTAGAGGGCAGCCTGG AATCTCCACTGTAGTCCCCCTAACAAACAGCCCTTCACTTCCTCTCCCACTTCAGCAATTTGTATTTTGATGCCA TTGGCCTCAGATCAGAGTGTTTTAAATCATCACGCCCTGGCTTATCCCTGGTCGAGCCAGGACACGGGGTGCTTC ${\tt CCAGCAGGGGCCACTTCAAAGCCAAGGTACAGGTGATAACTTGTGGTCCAGCATCAGTTTTCTCCACTTCTTTC}$ TCCCACTCACCCCAGCAAGGTGCCTGGGGAGACTTGAGCAGATGTTTCATTTTGGCCTGGCCAGTGGCTGAAAG CCAGGCCTCCAATGCACTGTGACCTCTGGCTTCCCCAGCAGCTTTCCCAGAGAGGGCAGAGGGGCCTTCCACAGCC $\tt CGGGTTCTCCTGCCTGCCTGCTGCAGCTGCAGGCATTCTGAGGGGCAACGTGGAGGAAGGGCCAGGGAT$ ATTTCTGGTGATGGACAGAGAAATCTTTTTACAGTTTCAAATTATGTTCAACAAATAAAAATTGCATTTTTT

4918/6881 FIGURE 4539

CCGCTTCCCCGTCTTGTACACCCCTAACTCCTGAGGCTCCTCCGAATCACGCGAGTGGAAGCGGAGAAGCTCAAG ACGACATCCTGATGTCCCACGAGAAGCTGCCGGTGCGCACGGAGACCGCCATGCCTCGCCTTGGCGCTTTCTTCC TGGAGCGGAGCGCAGGCCCGAGACTGACAACGCGGTCCCACAGGGTTCCAAGCTTGAACTACCCTTGTGGCTGG CAAAAGGACTTTTTGACAACAAGCGACGGATCCTTTCTGTGGAACTCCCCAAGATCTACCAAGAGGGTTGGAGGA $\tt CTGTGTTCAGTGCAGATCCCAATGTGGTGGACCTCCACAAAATGGGGCCCCATTTCTACGGGTTTGGCTCCCAGC$ TCCTGCATTTTGACAGTCCCGAGAATGCAGACATTTCCCAGTCTCTGCTGCAGACTTTTATCGGACGTTTTCGCC GCATCATGGACTCCTCACAGAATGCTTACAACGAAGACACTTCAGCCCTGGTAGCCAGGCTAGACGAGATGGAGA GGGGCTTATTTCAAACAGGGCAGAAAGGACTGAATGACTTTCAGTGTTGGGAGAAGGGGCAGGCTTCTCAGATCA CAGCTTCCAACCTCGTTCAGAATTACAAGAAGAGAAAATTCACTGATATGGAAGAC<u>TGA</u>AAGCCGGAAGAACACA GAATGGCTCCTCACAGACGTATCCCTCCGTGTGTCCTTGATAGGAGCTGGTTGACCTTGTACAGAACCAGAATCC TGTCCCATTTCATGGCTTATTTCCTGTGGCCATAGAGAATTATAGGGAACTGGACATGCTGGAGGATGTGGGTGT CCCTGGCTCTGTGAGTCTTCCAGGACCGTCCCACCCTGCTGACCCACAGCCCAGGCCCTTTAACCCAAGAACCCA TGGCCAAGGAGAATCAAAGTCCTTCCTAAATAAGAATCACTGCCATATAATATATCACAGTAGAGTTGCAACTG AGATTCCTTGTGTCTGGGAGTTTGGACAGCTTCAGATGTACAGTTTCACTAGCCACAAAGCACAGGTACAAACTG GGTCATCGCCTGTTCACAAAATGCTCTCTTGATCTTATTTGCCTCATCTTCCTCATGGTTGTACAGAGGATAGCA GTCGCCCAGATAAAGGAGGAAAAGGGAAAGGCAGACGAATGGCATGGCTTTTACTAAAGAAAAGATGTTGGCCTC ATACTCTATACTCAGGGCTTAATGAACTGGAATCTGCATAACTCAGCAGTCAACCCAGAAGGGAAATGGTTAAAC TGAGCTTGTTATTGCCTCGGAGAGCCTAAGAGCACCCGCACACTTAATTCTACTCCCTGTCTAGAAAAGCTGTCA GGGAGTCGTTTGGAATTGCAATGTAGTTATTAAGGGCTGTTAACCAGCCTGCATTACATCTGGAAGTCAGGACTT GGGTGCTGACTATGAAGGGCCCTGTTTTCAAAATCTAACATTGCAAGTGTAAATGGGCCAAGAAGCCTCCGTTGTG CTTTTTTTTTCCTCTCAGTAACTTTTGCAACATTATTGCATAGAAGATCCCTGACCATTTACTAGGAACCTGGT CCCATTAGACTGTTTGCAGGGCATCACTGCTTCCCCCTGACACCTCACAACTAGCAAAAATTGTCTTTGTCTTTG GAAATTATAGAGGGATTTGGGTATCCAGATTGTGCAGATGCAAACTTAGGCTGTCTTGATGCAAACTTAGAACCA ATTGGCTTTGTACATGAATATGTTCTGTACAAGTGCTCTTTCACTAGTACTACAGATAATCAAAGCTATCAGAAT Α

MSEAYFRVESGALGPEENFLSLDDILMSHEKLPVRTETAMPRLGAFFLERSAGAETDNAVPQGSKLELPLWLAKG LFDNKRRILSVELPKIYQEGWRTVFSADPNVVDLHKMGPHFYGFGSQLLHFDSPENADISQSLLQTFIGRFRRIM DSSQNAYNEDTSALVARLDEMERGLFQTGQKGLNDFQCWEKGQASQITASNLVQNYKKRKFTDMED

GGTCCACCATGCCCTGCTGCACTCCGCCCGCTCCTCCCCGGGATCGCCGCCCTTCCACCCGGGCCTCGCCG CCGCGCCTCTGCCAGAGCCAGCTCCTGGTGGACCCATGTGGAAATGGGACCTCCAGATCCCATTCTGGGAGTCA CTGAAGCCTTTAAGAGGGACACCAATAGCAAAAAGATGAATCTGGGAGTTGGTGCCTACCGGGATGATAATGGAA AGCCTTACGTTCTGCCTAGCGTCCGCAAGGCAGAGGCCCAGATTGCCGCAAAAAATTTGGACAAGGAATACCTGC CCATTGGGGGACTGGCTGAATTTTGCAAGGCATCTGCAGAACTAGCCCTGGGTGAGAACAGCGAAGTCTTGAAGA GTGGCCGGTTTGTCACTGTGCAGACCATTTCTGGAACTGGAGCCTTAAGGATCGGAGCCAGTTTTCTGCAAAGAT GCATGCAGCTACAAGGTTATCGGTATTATGACCCCAAGACTTGCGGTTTTGACTTCACAGGCGCTGTGGAGGATA TTTCAAAAATACCAGAGCAGAGTGTTCTTCTTCTGCATGCCTGCGCCCACAATCCCACGGGAGTGGACCCGCGTC CGGAACAGTGGAAGGAAATAGCAACAGTGGTGAAGAAAAGGAATCTCTTTGCGTTCTTTGACATGGCCTACCAAG GCTTTGCCAGTGGTGATGGTGATAAGGATGCCTGGGCTGTGCGCCACTTCATCGAACAGGGCATTAATGTTTGCC TCTGCCAATCATATGCCAAGAACATGGGCTTATATGGTGAGCGTGTAGGAGCCTTCACTATGGTCTGCAAAGATG CGGATGAAGCCAAAAGGGTAGAGTCACAGTTGAAGATCTTGATCCGTCCCATGTATTCCAACCCTCCCCTCAATG GGGCCCGGATTGCTGCCATTCTGAACACCCCAGATTTGCGAAAACAATGGCTGCAAGAAGTGAAAGTCATGG ACATCACCGACCAAATTGGCATGTTCTGTTTCACAGGGCTAAAGCCTGAACAGGTGGAGCGGCTGATCAAGGAGT TCTCCATCTACATGACAAAAGATGGCCGCATCTCTGTGGCAGGGGTCACCTCCAGCAACGTGGGCTACCTTGCCC ATGCCATTCACCAGGTCACCAAGTAATGTCCCTGGTGCGAGGAAACAGAGACACCTTTCTGTCTTCAGCCTCTG TGGAATATTAAACCAAACTCTCCCCGGTCCTTTTTTCTCCAACTTTTCTCAAAGAGTTTACATGTGCAAGAAAGT CATCGCACCAAAAAACCTGTCAATTATGCCATTGCAATATTTCAGAAGCTTTAACTGAAGTGTCAGGTTCCTCGT CCATCTTGGAACACCTTATCAACAGGCCGCACTGCAGAAATGATGTTTTATGAAAACCAATGAGGCTGCTGCCA $\tt CTCCAGCAAGGGAAATAATGCAGTTTCCTGTCTTATTTAAGAAAAAGGGAAGGCTCTCTTTTCTCCCTTGTCATT$ TCAACTCCATCCTATCGAGATTTATTTAAGAATGAAGAACATAATTTTCTGCTGATGCTGTACCCTCACCCTTTT CAGCAAAGAATAGTGGAGAGTAGGAAACTGTACTTTATCTCGGCATCCTCTTGAATGATAGTGCAAGTTTCTCCA GTTGGGATGTTGTCTCTGCCCGGTTGGACCTCCTCCCTTTGTTGAATGTGGTGTGCAGCCTCTCATCTCACACTG TGAGTCCAGCGCGCGCGGGTGGTACCAGGAAAGAGGATATTCTAGGCTTTGCGTGCTAGCTGGGTTCAGGCT TCACCCACTGGAAAGAACCACCATCTGCTCTAACCATGTAGACTTATTGCGGCCTGGTTTCTCTGTTACAATAAA ATTACTGTAGACCC

MALLHSGRVLPGIAAAFHPGLAAAASARASSWWTHVEMGPPDPILGVTEAFKRDTNSKKMNLGVGAYRDDNGKPY VLPSVRKAEAQIAAKNLDKEYLPIGGLAEFCKASAELALGENSEVLKSGRFVTVQTISGTGALRIGASFLQRFFK FSRDVFLPKPTWGNHTPIFRDAGMQLQGYRYYDPKTCGFDFTGAVEDISKIPEQSVLLLHACAHNPTGVDPRPEQ WKEIATVVKKRNLFAFFDMAYQGFASGDGDKDAWAVRHFIEQGINVCLCQSYAKNMGLYGERVGAFTMVCKDADE AKRVESQLKILIRPMYSNPPLNGARIAAAILNTPDLRKQWLQEVKVMADRIIGMRTQLVSNLKKEGSTHNWQHIT DQIGMFCFTGLKPEQVERLIKEFSIYMTKDGRISVAGVTSSNVGYLAHAIHQVTK

ATGGCGGACCTTGATTCGCCTCCGAAGCTGTCAGGGGGTGCAGCAGCCGTCTGAGGGGGGTGGGAGGTGGCCGCTGC TCCGAAATCTCCGCTGAGCTCATTCGCTCCCTGACAGAGCTGCAGGAGCTGGAGGCTGTATACGAACGGCTCTGC GGCGAGGAGAAAGTGGTGGAGAGAGAGCTGGATGCTCTTTTGGAACAGCAAAACACCATTGAAAGTAAGATGGTC ACCTGCAACCTGGCTGAGAATGTGTCCAGCAAAGTTCGTCAGCTTGACCTGGCCAAGAACCGCCTCTATCAGGCC TATGAGCAGGCTGCAGCACATACTCATCGCTACTTGTGCCTGGACAAGTCGGTCATTGAGCTCAGCCGACAGGGC AAAGAGGGGAGCATGATTGATGCCAACCTGAAATTGCTGCAGGAAGCTGAGCAACGTCTCAAAGCCATTGTGGCA GAGAAGTTTGCCATTGCCACCAAGGAAGGTGATCTGCCCCAGGTGGAGCGCTTCTTCAAGATCTTCCCACTGCTG GGTTTGCATGAGGAGGGATTAAGAAAGTTCTCGGAGTACCTTTGCAAGCAGGTGGCCAGTAAAGCTGAGGAGAAT CTGCTCATGGTGCTGGGGACAGACATGAGTGATCGGAGAGCTGCAGTCATCTTTGCAGATACACTTACTCTTCTG TTTGAAGGGATTGCCCGCATTGTGGAGACCCACCAGCCAATAGTGGAGACCTATTATGGGCCAGGGAGACTCTAT ACCCTGATCAAATATCTGCAGGTGGAATGTGACAGACAGGTGGAGAAGGTGGTAGACAAGTTCATCAAGCAAAGG GACTACCACCAGCAGTTCCGGCATGTTCAGAACCACCTGATGAGAAATTCTACAACAGAAAAAATCGAACCAAGA GAACTGGACCCCATCCTGACTGAGGTCACCCTGATGAATGCCCGCAGTGAGCTATACTTACGCTTCCTCAAGAAG AGGATTAGCTCTGATTTTGAGGTGGGAGACTCCATGGCCTCAGAGGAAGTAAAGCAAGAGCACCAGAAGTGTCTG GACAAACTCCTCAATAACTGCCTTTTGAGCTGTACCATGCAGGAGCTAATTGGCTTATATGTTACCATGGAGGAG TACTTCATGAGGGAGACTGTCAATAAGGCTGTGGCTCTGGACACCTATGAGAAGGGCCAGCTGACATCCAGCATG GCCATGATCAACCTCGCCACCACAGAGCTGGAGTCTGACTTCAGGGATGTTCTGTGTAATAAGCTGCGGATGGGC TTTCCTGCCACCACCTTCCAGGACATCCAGCGGGGGTGACAAGTGCCGTGAACATCATGCACAGCAGCCTCCAG ACTGCTTCTCTGAGGAGAGGCCCGCAGCATGGGCAGGCCCAGTCCTTCGGGCCTGCCATCACTGCTCTGCTAGT ACATGTCTTAGGCTTTCAACTTCCTCTGGAAAGGAGGCTTTATTAAAGCCCTTTGCTACCCAGAATGACAGATGT GATAAAGCAGCAAGCCTTCCATTGTGTGACAGCTTGGAAAGGAGGAGCACAGAAGGATGA

4924/6881 FIGURE 4545

 $\tt CCCGCAGCC\underline{ATG} \tt TCGTTCTTCCCGGAGCTTTACTTTAACGTGGACAATGGCTACTTGGAGGGACTGGTGCGC$ GGCCTGAAGGCCGGGTGCTCAGCCAGGCCGACTACCTCAACCTGGTGCAGTGCGAGACGCTAGAGGACTTGAAA GACCGGCTCAAGGAGAAGATGGTGGTGGAGTTCCGCCACATGAGGAACCATGCCTATGAGCCACTCGCCAGCTTC CTAGACTTCATTACATTACATGATCGACAACGTGATCCTGCTCATCACAGGCACGCTGCACCAGCGCTCC ATCGCTGAGCTCGTGCCCAAGTGCCACCCACTAGGCAGCTTCGAGCAGATGGAGGCCGTGAACATTGCTCAGACA CCTGCTGAGCTCTACAATGCCATTCTGGTGGACACGCCTCTTGCGGCTTTTTTCCAGGACTGCATTTCAGAGCAG GACCTTGACGAGATGAACATCGAGATCATCCGCAACACCCTCTACAAGGCCTACCTGGAGTCCTTCTACAAGTTC TGCACCCTACTGGGCGGGACTACGGCTGATGCCATGTGCCCCATCCTGGAGTTTGAAGCAGACCGCCGCGCCTTC ATCATCACCATCAATTCTTTCGGCACAGAGCTGTCCAAAGAGGACCGTGCCAAGCTCTTTCCACACTGTGGGCGG CTCTACCCTGAGGGCCTGGCGCAGCTGGCTGACGACTATGAACAGGTCAAGAACGTGGCCGATTACTAC $\verb|CCGGAGTACAAGCTGCTCTTCGAGGGTGCAGGTAGCAACCCTGGAGACAAGACGCTGGAGGACCGATTCTTTGAG|\\$ CACGAGGTAAAGCTGAACAAGTTGGCCTTCCTGAACCAGTTCCACTTTGGTGTCTTCTATGCCTTCGTGAAGCTC AAGGAGCAGGAGTGTCGCAACATCGTGTGGATCGCTGAATGTATCGCCCAGCGCCACCGCGCCAAAATCGACAAC TCCTAGCGGCTGCCCAGTTCTCCTGACCCTCTTAGAGACTGTTCTTAGGCCTGAAAAGGGGCTGGGCACCCCCC $\tt CCACCAAGGATGGACGAAGACCCCCTCCAGAGCAAGGAGGCCCCCTCAGCCCTGTGGTTACAGCCGCTGATGTAT$ CTAAGAAGCATGTCACTTTCATGTTCCTCCCTAACTCCCTGAGCAACCCTGGGGGCCTGGGGGCAGTTTGAG ΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑ

4925/6881 FIGURE 4546

MSFFPELYFNVDNGYLEGLVRGLKAGVLSQADYLNLVQCETLEDLKLHLQSTDYGNFLANEASPLTVSVIDDRLK EKMVVEFRHMRNHAYEPLASFLDFITYSYMIDNVILLITGTLHQRSIAELVPKCHPLGSFEQMEAVNIAQTPAEL YNAILVDTPLAAFFQDCISEQDLDEMNIEIIRNTLYKAYLESFYKFCTLLGGTTADAMCPILEFEADRRAFIITI NSFGTELSKEDRAKLFPHCGRLYPEGLAQLARADDYEQVKNVADYYPEYKLLFEGAGSNPGDKTLEDRFFEHEVK LNKLAFLNQFHFGVFYAFVKLKEQECRNIVWIAECIAQRHRAKIDNYIPIF

CCCCGCCCGCCCCGCCCAGCCCGCTGGGCCGCCATCGAGCCTGGCCTTGGCCGTCGGGCGGCGCCTGGCTGC CCGGCTGGATCGCGTTGTCCCGCCTGGCGCGCCCCCAGCGCCTGCCGGTGGCCACTCGCGCGGTGCTCATCACCG GCTGTGACTCTGGTTTTGGCAAGGAGACGGCCAAGAAACTGGACTCCATGGGCTTCACGGTGCTGGCCACCGTAT TGGAGTTGAACAGCCCCGGTGCCATCGAGCTGCGTACCTGCTGCTCCCCTCGCCTAAGGCTGCTGCAGATGGACC TGACCAAACCAGGAGACATTAGCCGCTTGCTAGAGTTCACCAAGGCCCACACCACCAGCACCGGCCTGTGGGGCC TCGTCAACAACGCAGGCCACAATGAAGTAGTTGCTGATGCGGAGCTGTCTCCAGTGGCCACTTTCCGTAGCTGCA TGGAGGTGAATTTCTTTGGCGCGCTCGAGCTGACCAAGGGCCTCCTGCCCCTGCTGCGCAGCTCAAGGGGCCGCA TCGTGACTGTGGGGAGCCCAGCGGGGGACATGCCATATCCGTGCTTGGGGGCCTATGGAACCTCCAAAGCGGCCG TGGCGCTACTCATGGACACATTCAGCTGTGAACTCCTTCCCTGGGGGGGTCAAGGTCAGCATCATCCAGCCTGGCT AAGAGCTGCTGCAGGCCTACGGCAAGGACTACATCGAGCACTTGCATGGGCAGTTCCTGCACTCGCTACGCCTGG AGGCCTTCTTCATCAGTCACTGTCTGCCTCGAGCACTGCAGCCTGGCCAGCCTGGCACTACCCCACCACAGGACG CAGCCCAGGACCCAAACCTGAGCCCCGGCCCTTCCCCAGCAGTGGCTCGG<u>TGA</u>GCCATGTGCACCTATGGCCCAG $\verb|CCACTGCAGCACAGGAGGCTCCGTGAGCCTTGGTTCCTCCCCGAAAACCCCCAGCATTACGATCCCCCAAGTGTC|\\$ $\tt CTGGACCCTGGCCTAAAGAATCCCACCCCACTTCATGCCCACTGCCGATGCCCAATCCAGGCCCGGTGAGGCCACTCATGCCCACTCCACTCCACTCCACTCCACTCCACTCCACTCCACTCCCACTCACTC$ AGGTTTCCCAGTGAGCCTCTGCGCCTCTCCACTGTTTCATGAGCCCAAACACCCTCCTGGCACAACGCTCTACCC TGCAGCTTGGAGAACTCCGCTGGATGGGAGTCTCATGCAAGACTTCACTGCAGCCTTTCACAGGACTCTGCAGAT AGTGCCTCTGCAAACTAAGGAGTGACTAGGTGGGTTGGGGACCCCCTCAGGATTGTTTCTCGGCACCAGTGCCTC AGTGCTGCAATTGAGGGCTAAATCCCAAGTGTCTCTTGACTGGCTCAAGAATTAGGGCCCCAACTACACCCCCC

MERWPWPSGGAWLLVAARALLQLLRSDLRLGRPLLAALALLAALDWLCQRLLPPPAALAVLAAAGWIALSRLARP QRLPVATRAVLITGCDSGFGKETAKKLDSMGFTVLATVLELNSPGAIELRTCCSPRLRLLQMDLTKPGDISRLLE FTKAHTTSTGLWGLVNNAGHNEVVADAELSPVATFRSCMEVNFFGALELTKGLLPLLRSSRGRIVTVGSPAGDMP YPCLGAYGTSKAAVALLMDTFSCELLPWGVKVSIIQPGCFKTESVRNVGQWEKRKQLLLANLPQELLQAYGKDYI EHLHGQFLHSLRLAMSDLTPVVDAITDALLAARPRRRYYPGQGLGLMYFIHYYLPEGLRRRFLQAFFISHCLPRA LQPGQPGTTPPQDAAQDPNLSPGPSPAVAR

4928/6881 FIGURE 4549A

AGTGGCGTCGGAACTGCAAAGCACCTGTGAGCTTGCGGAAGTCAGTTCAGACTCCAGCCCGCTCCAGCCCGGCCC GGCGCTGCTGCTGCTGCAGGTCTCCTCTTGGCTCTGCCAGGAGCCGGAGCCCTGCCACCCTGGCTTTGACGC CGAGAGCTACACGTTCACGGTGCCCCGGCGCCACCTGGAGAGAGGCCGCCTCCTGGGCAGAGTGAATTTTGAAGA TTGCACCGGTCGACAAAGGACAGCCTATTTTTCCCTCGACACCCGATTCAAAGTGGGCACAGATGGTGTGATTAC AGTCAAAAGGCCTCTACGGTTTCATAACCCACAGATCCATTTCTTGGTCTACGCCTGGGACTCCACCTACAGAAA GTTTTCCACCAAAGTCACGCTGAATACAGTGGGGCACCACCACCGCCCCCGCCCCATCAGGCCTCCGTTTCTGG TCCCATCAGCTGCCCAGAAAATGAAAAAGGCCCATTTCCTAAAAAACCTGGTTCAGATCAAATCCAACAAAGACAA AGAAGGCAAGGTTTTCTACAGCATCACTGGCCAAGGAGCTGACACCCCCTGTTGGTGTCTTTATTATTGAAAG TGTGTCATCCAACGGGAATGCAGTTGAGGATCCAATGGAGATTTTGATCACGGTAACCGATCAGAATGACAACAA GCCCGAATTCACCCAGGAGGTCTTTAAGGGGTCTGTCATGGAAGGTGCTCTTCCAGGAACCTCTGTGATGGAGGT CACAGCCACAGACGCGGACGATGATGTGAACACCTACAATGCCGCCATCGCTTACACCATCCTCAGCCAAGATCC TGAGCTCCCTGACAAAAATATGTTCACCATTAACAGGAACACAGGAGTCATCAGTGTGGTCACCACTGGGCTGGA CCGAGAGAGTTTCCCTACGTATACCCTGGTGGTTCAAGCTGACCTTCAAGGTGAGGGGTTAAGCACAACAGC AACAGCTGTGATCACAGTCACTGACACCAACGATAATCCTCCGATCTTCAATCCCACCACGTACAAGGGTCAGGT GCCTGAGAACGAGGCTAACGTCGTAATCACCACACTGAAAGTGACTGATGCTGATGCCCCCAATACCCCAGCGTG GGAGGCTGTATACACCATATTGAATGATGGTGGTGGACAATTTGTCGTCACCACAAATCCAGTGAACAACGATGG CATTTTGAAAACAGCAAAGGGCTTGGATTTTGAGGCCAAGCAGCAGTACATTCTACACGTAGCAGTGACGAATGT CATCTTTGTGCCTCCTGAAAAGAGTGGGAAGTGTCCGAGGACTTTGGCGTGGGCCAGGAAATCACATCCTACAC GATTAATCCGGACACTGGTGCCATTTCCACTCGGGCTGAGCTGGACAGGGAGGATTTTGAGCACGTGAAGAACAG CACGTACACAGCCCTAATCATAGCTACAGACAATGGTTCTCCAGTTGCTACTGGAACAGGGACACTTCTGCTGAT CCTGTCTGATGTGAATGACAACGCCCCCATACCAGAACCTCGAACTATATTCTTCTGTGAGAGGGAATCCAAAGCC TCAGGTCATAAACATCATTGATGCAGACCTTCCTCCCAATACATCTCCCTTCACAGCAGAACTAACACAGGGGC GGTGGGTGACTACAAAATCAATCTCAAGCTCATGGATAACCAGAATAAAGACCAAGTGACCACCTTAGAGGTCAG CGTGTGTGACTGTGAAGGGGCCGCCGGCGTCTGTAGGAAGGCACAGCCTGTCGAAGCAGGATTGCAAATTCCTGC CATTCTGGGGATTCTTGGAGGAATTCTTGCTTTGCTAATTCTGATTCTGCTGCTCTTGCTGTTTCTTCGGAGGAG AGCGGTGGTCAAAGAGCCCTTACTGCCCCCAGAGGATGACACCCGGGACAACGTTTATTACTATGATGAAGAAGG AGGCGGAGAAGAGGACCAGGACTTTGACTTGAGCCAGCTGCACAGGGGGCCTGGACGCTCGGCCTGAAGTGACTCG TAACGACGTTGCACCAACCCTCATGAGTGTCCCCCGGTATCTTCCCCGCCCTGCCAATCCCGATGAAATTGGAAA CTATGAAGGAAGCGGTTCCGAAGCTGCTAGTCTGAGCTCCCTGAACTCCTCAGAGTCAGACAAAGACCAGGACTA GACTCGAGAGGCGGGCCCCAGACCCATGTGCTGGGAAATGCAGAAATCACGTTGCTGGTGGTTTTTCAGCTCC. CTTCCCTTGAGATGAGTTTCTGGGGAAAAAAAAGGGCTGGTTAGTGATGCAGTTAGTATAGCTTTATACTCTCT ACTCTTTACATGGTGGTGATGTCCAAAAGATACCCAAATTTTAATATTCCAGAAGAACAACTTTAGCATCAGAAG GTTCACCCAGCACCTTGCAGATTTTCTTAAGGAATTTTGTCTCACTTTTAAAAAGAAGGGGGAGAAGTCAGCTACT CCCTCTGCCTTTTTTTTTTTTTTAAGACAGGGTCTCATTCTATCGGCCAGGCTGGAGTGCAGTGGTGCAATCAC AGCTCACTGCAGCCTTGTCCTCCCAGGCTCAAGCTATCCTTGCACCTCAGCCTCCCAAGTAGCTGGGACCACAGG CATGCACCACTACGCATGACTAATTTTTTAAATATTTGAGACGGGGTCTCCCTGTGTTACCCAGGCTGGTCTCAA ACTCCTGGGCTCAAGTGATCCTCCCATCTTGGCCTCCCAGAGTATTGGGATTACAGACATGAGCCACTGCACCTG CCCAGCTCCCCAACTCCCTGCCATTTTTTAAGAGACAGTTTCGCTCCATCGCCCAGGCCTGGGATGCAGTGATGT

4929/6881 FIGURE 4549B

CAGATGGGGTCTTGCTATGTTGCCCAAGCTGGTCTTAAACTCCTGGCCTCAAGCAATCCTTCTGCCTTGGCCCCC CAAAGTGCTGGGATTGTGGCCATGTGTGCCCAGCCTCCATGTTTTAATATCAACTCTCACTCCTGAATT CAGTTGCTTTGCCCAAGATAGGAGTTCTCTGATGCAGAAATTATTGGGCTCTTTTAGGGTAAGAAGTTTGTGTCT TTGTCTGGCCACATCTTGACTAGGTATTGTCTACTCTGAAGACCTTTAATGGCTTCCCTCTTTCATCTCCTGAGT AGTGGGCTTGGAGATGGCAGGAGAGCTTGTCATTGAGCCTGGCAATTTAGCAAACTGATGCTGAGGATGATTGAG GTGGGTCTACCTCATCTCTGAAAATTCTGGAAGGAATGGAGGAGTCTCAACATGTGTTTCTGACACAAGATCCGT CACATTTGCCCAATTCCAGGTGTGCACAGAAAACCGAGAATATTCAAAATTCCAAATTTTTCTTAGGAGCAAGA A GAAAATGTGGCCCTAAAGGGGGTTAGTTGAGGGGGTAGGGGGTAGTGAGGATCTTGATTTGGATCTCTTTTTATTTAAATGTGAATTTCAACTTTTGACAATCAAAGAAAAGACTTTTGTTGAAATAGCTTTACTGTTTCTCAAGTGTTT $\tt TGGAGAAAAAATCAACCCTGCAATCACTTTTTGGAATTGTCTTGATTTTTCGGCAGTTCAAGCTATATCGAATA$ TAGTTCTGTGTAGAGAATGTCACTGTAGTTTTGAGTGTATACATGTGTGGGTGCTGATAATTGTGTATTTTCTTT ${\tt GGGGGTGGAAAAGGAAAACAATTCAAGCTGAGAAAAGTATTCTCAAAGATGCATTTTTATAAATTTTATTAAACA}$ ATTTTGTTAAACCATAAAAAAAAAAAAA

4930/6881 FIGURE 4550

MGPWSRSLSALLLLLQVSSWLCQEPEPCHPGFDAESYTFTVPRRHLERGRVLGRVNFEDCTGRQRTAYFSLDTRF
KVGTDGVITVKRPLRFHNPQIHFLVYAWDSTYRKFSTKVTLNTVGHHHRPPPHQASVSGIQAELLTFPNSSPGLR
RQKRDWVIPPISCPENEKGPFPKNLVQIKSNKDKEGKVFYSITGQGADTPPVGVFIIERETGWLKVTEPLDRERI
ATYTLFSHAVSSNGNAVEDPMEILITVTDQNDNKPEFTQEVFKGSVMEGALPGTSVMEVTATDADDDVNTYNAAI
AYTILSQDPELPDKNMFTINRNTGVISVVTTGLDRESFPTYTLVVQAADLQGEGLSTTATAVITVTDTNDNPPIF
NPTTYKGQVPENEANVVITTLKVTDADAPNTPAWEAVYTILNDDGGQFVVTTNPVNNDGILKTAKGLDFEAKQQY
ILHVAVTNVVPFEVSLTTSTATVTVDVLDVNEAPIFVPPEKRVEVSEDFGVGQEITSYTAQEPDTFMEQKITYRI
WRDTANWLEINPDTGAISTRAELDREDFEHVKNSTYTALIIATDNGSPVATGTGTLLLILSDVNDNAPIPEPRTI
FFCERNPKPQVINIIDADLPPNTSPFTAELTHGASANWTIQYNDPTQESIILKPKMALEVGDYKINLKLMDNQNK
DQVTTLEVSVCDCEGAAGVCRKAQPVEAGLQIPAILGILGGILALLILILLLLLFLRRRAVVKEPLLPPEDDTRD
NVYYYDEEGGGEEDQDFDLSQLHRGLDARPEVTRNDVAPTLMSVPRYLPRPANPDEIGNFIDENLKAADTDPTAP
PYDSLLVFDYEGSGSEAASLSSLNSSESDKDQDYDYLNEWGNRFKKLADMYGGGEDD

CCGCCATTGCAGGGAATCCCTGTGCTGATCGTGGGGCATCATATCCTGTATGGGAAAATCATCCACCTGGAGAAA CCTTTTGCAGTCCTTGTCAAACACACTCCTGGGGATCAGGACTGTGATGAGCTTGGCCGCGAGACTGGCACCCGG TACCTGGTGACAGCACTCATCAAAGACAAGATCCTTTTCAAAACCCGCCCCAAGCCCATTATCACCAGCGTCCCC AAGAAAGTATGAAAGAACCTCGGATTTTCCCTAGAGAGCGGCCAACTCCTTGGACTCGTGCTCCGCTGCCACCTC CGGATCCCTTCCTTATGGCGGCCGGTTCTCTTGGTGGAAATCTGACCCCATTTCCAAGGAACCCATCTCCTTTTC CAGCTTCATCAGGCTCATTGGCTTCAAATCCAGCACCTTTCCCGGCTGGTGCTCGTGACCCAAGTATGGCTTCTT CAGGCCCAGGCCCCACCCTAAACCCTAGGACAGGGGCTCTGCCAGGCCCAGGGCCTCTGTCTAACCCCAGGTTAG GGGGTCTCCCAGGACCAGGTCCTATGTCCAACCCAAGGGCAGGTGGTCTCCTGGGAGCAGGTCCTGACCCCAGAG GTGGTGGTCCCATGGGCCCTGGATCTGGACCTAACCTGAGAGCCGGTGTTCTGTTAACCTCTGGGAATGGTCCTC CCAATCCTAGGCCAGTTGGCCTGGGCCCAGGACCAAACCCCAATCTGAGATCAGGCTTTTTAGGGACAAACCCTG $\verb|CCCCAGGTCAGGTGTGTTTCCAGGCCCAGGCCTTGGGCCCAACCCAAGACCAAGTGGCCTGGGCCCAGGCCCTA| \\$ ATCTAGATGCCAGAGCAGGTGGCCTCTTGGGCACAGGATCTGGTCTTAACTTAAGAATGGCTGGACCTCAAGGCC ACATGGGCACAAGCCCATCCTCCATGGCAAGAGTACCTGGCCCCATGGGCCCAAACTCGGGTCCTAGCTCTCGGG GAATTGGCCTTCCAGGGCCAAATCCATCTCCCATGTCAAGGGCTCCTGGCCCCATAGGCCCTAATTCAGCTCATT TCTCAAGGCCAGTTGGCCCCATGGGGGTAAATGCCAATCCCTTTCCCAGGGGAGCAGGTTCATCTGCCTTTTCTC AGTCTTCTGGCACATTGGCATCAAACCCAGCTACCTTCCAAAGGTCCGCTGGCCTCCAGGGCTCAAATCCAACCA TTTTCCCAAGAGCCTCTGGGCCACTTGGCCCCAACCCAGCTAACTTCCCAAGGGCCACTGGCCTGCAGGGTCCAA GTCCAACTACCTTCCCAAGGTCTACTGGCCCATTAGGCCCTGGTCAAGTTACTTTCCCCAGGCCAGCTGCCGGGC ATCTGGGCCCTTCTCCAGCTGGCCCTGTGGGTATCAACCCAGCTCCTTTCACAAGGCCAACTGGGACCCTGGGTC TCAACCCAGCTTCCTTTCCAAGGATGAATGGCCCTGCAGGCAAGAGTTTCGTCCCATTTCCTAGAGTGGGGAGCC TCCCTGGCACAAACCCAGCTGCTTTCCCCAGACCAGGGGGTCCAATGGCTGCAATGTACCCAAATGGAATGTTGC CCCCT<u>TAA</u>ACACCATTTTCCCTCCAGGACCACCTTGGTTTCTAGGCACTGTGGTTCTTGGCAGGGGCTGTCTTAG GTAAAAGGGTAGTTGTGGAGCTACAGTCTGAAGAACATAGCTTGGGCTCAAGTTCAAATGAGCCATCTTTTTCCT TTGCGTTTTTCTTGACTGAAGGTGAGATGTTATTTGTGGCATGTGAACTGTGGCAGGTGGGAATAATCCTGCCCT TGAGAAAGGATCTCCAGCCTCCCAGAAGCCTGCTGTGCTTTCGTCCCACAGCTTTCTGCCCATTGTTTCTTAC TAGTTTCTTGAATTGTTCTTGTGGACTTTTCCTCAGGGATACATTGGCCTGCAGGTCCCAGTTCACATGTAGTCC CCTGCTCACCATTGGAGAATCAGCTCACTGCTCTCTAGAAACGTGGCGTTGGTGAACGGACCATGCTTCCGTAGC TCTGACCTGGGCAGCTTGGACCTGGTCATCCTCTACTGCCATACCTTTCCCTGGGGGGCTTGAACACAGAACAGGG TCCTGGGACTTAGAGGTGGCCAGATTTAAGGCCCCTCTACTCATCCAACTCCCTCTTCACTGGTACTCCCAATCA TTTCTTTAATAAATGGGATGAGAGGGC

MKEPRIFPRERPTPWTRAPLPPRGRLDGSLGPQGGPVLNTGHPLGVNSDPFLMAAGSLGGNLTPFPRNPSPFPAS
SGSLASNPAPFPAGARDPSMASFPRGMNPTGTGAVSFPRPGGLLGPGPGPGPTLNPRTGALPGPGPLSNPRLGGL
PGPGPMSNPRAGGLLGAGPDPRGGGPMGPGSGPNLRAGVLLTSGNGPPNPRPVGLGPGPNPNLRSGFLGTNPAPR
SGVFPGPGLGPNPRPSGLGPGPNLDARAGGLLGTGSGLNLRMAGPQGLDLAPILRAAGLLGANSASFSQASGNMG
TSPSSMARVPGPMGPNSGPSSRGIGLPGPNPSPMSRAPGPIGPNSAHFSRPVGPMGVNANPFPRGAGSSAFSQSS
GTLASNPATFQRSAGLQGSNPTIFPRASGPLGPNPANFPRATGLQGPSPTTFPRSTGPLGPGQVTFPRPAAGHLG
PSPAGPVGINPAPFTRPTGTLGLNPASFPRMNGPAGKSFVPFPRVGSLPGTNPAAFPRPGGPMAAMYPNGMLPP

CAGGAAGTCGAGACCTCAGTCACCTATTACCGGTTGGAGGAGGTGGCAAAGCGCAACTCCTTGAAGGAACTGTGG CTTGTGATCCATGGGCGAGTCTACGATGTCACCCGCTTCCTCAACGAGCACCCTGGAGGAGAAGAGGTTCTGCTG GAACAAGCTGGTGTAGATGCAAGTGAAAGCTTTGAAGATGTAGGACACTCTTCTGATGCCAGAGAAATGCTAAAG CAGTACTACATTGGTGATATCCATCCGAGTGACCTTAAACCTGAAAGTGGTAGCAAGGACCCTTCAAAAAATGAT ACATGCAAAAGTTGCTGGGCATATTGGATTTTACCCATCATAGGCGCTGTTCTCTTAGGTTTCCTGTACCGCTAC TACACATCGGAAAGCAAATCCTCC<u>TGA</u>GGAGGCCTTGCTGAAGTTAGAAAGTGCATCCACTTTGGGGCGAAAACT AGAGACTTGCTTGGGGGCTGCAGAAGTGCCCTCTCCTCGAATCCTGCCAGTTGCATTCTTCCCCCTTGGAGCCAA GACGATTGGCCAGACATCACCTCAGATCTGAGACCAGCGTCTTCCATCTCTCAGAGCCTTACTCCCAAAGTACCT GCTCACTGTTCCGTGTTGAACAATTGCCGGTGTTTCCTCTCTCACTGGTTTCCATGAGTACCCTTATATTTCAC AACTTTCTGTTCATAAGTTATAGTGACATTGCTCTTTGGTAAAAATGCCTGCTTTCCAATACTTTGATTGCATAT TAGACATTCTTAACAGGGCGGCAGTCTAGTGTTGAAAGTTTTATTTTTCCATTTTTCTTTTAAGTAAATTTTTTT TAAAAAATTCTGATTTAGGGCTAGGTGTGGTGGCTCAGGCCTGTAATCCTGGCACTTTGGGAGGCCAAGGTGGGA TGATTTAATTCTTTTATTTATCATAAGGGGTTTAATTCCTGAAGTAAAGGTTTGCACCTATTAAACTTAAAACTG CCAAATGATTTTTGTTCTTTTATGTGCGTGATAAAAATACAAAGAATGGTGTGGCCACCTCCCTTTCAAGCT AGGGCAGCAGGTAGCTCTTCCCAGCCCCTGAGCCCAGCCCCTTCCCAAGTGGTGCCGGACAAAAAACTACATGGC CCTTTCGTGTCTTGGGGGTGGAAAGGGAGGATGAATTGGGGTGATAGAACCCTGGTGAATTCAGAGTAATCTTT CTTTAGAAAACTGGTGTTTTCTAAAGAAACAGGATAGGAGTTTAGAGAAGGCACCAAAGCTTTCACTTTGGTTTG GCACCAGTTTCTAACCATCTGTTTTTTCTACCCTAGCTATCTTTTATTGGTAAAATATAAATGTATAATTATGTT AAGTAAGAGACTCCAGCATGGCCTTCTGTTTGCCCCGCAGTAAAGTAACTTCCATATAAAATGGTATTTGAAAGT GAGAGTTCATGACAACAGACCGTTTTCCATTTCATCTGTATTTTATCTCCGTGACTCCAACTTGTGGGTTTGTTC AAAAAAAAA

4934/6881 FIGURE 4554

MATAEASGSDGKGQEVETSVTYYRLEEVAKRNSLKELWLVIHGRVYDVTRFLNEHPGGEEVLLEQAGVDASESFE DVGHSSDAREMLKQYYIGDIHPSDLKPESGSKDPSKNDTCKSCWAYWILPIIGAVLLGFLYRYYTSESKSS

 $\verb|CACACCCCTACAATCCCCTCCCCCAGCCCCGAGAGACTTTTCTTGACTTCCACCAGTTGCTCCGGCGGGTGAG|\\$ AGTGGAGAGGCCCCTCCTTCATCCCCCAGGCTCCCTCCTGGAGCTGCAGCCTCAGCATCCTCCGCCCAGC ACCCCAGGATTCAGGCGTTGGGTCCCGCCTTGTAGGCTGTCCACCTCAAACGGGCCGGACAGGATATATAAGAG AGAATGCACCGTGCACTACACACGCGACTCCCACAAGGTTGCAGCCGGAGCCGCCCAGCTCACCGAGAGCCTAGT TCCGGCCAGGGTCGCCCCGGCAACCACGAGCCCAGCCAATCAGCGCCCCGGACTGCACCAGAGCCATGGTCGGCA GAAGAGCACTGATCGTACTGGCTCACTCAGAGAGGACGTCCTTCAACTATGCCATGAAGGAGGCTGCTGCAGCGG CTTTGAAGAAGAAAGGATGGGAGGTGGTGGAGTCGGACCTCTATGCCATGAACTTCAATCCCATCATTTCCAGAA AGGACATCACAGGTAAACTGAAGGACCCTGCGAACTTTCAGTATCCTGCCGAGTCTGTTCTGGCTTATAAAGAAG GCCATCTGAGCCCAGATATTGTGGCTGAACAAAAGAAGCTGGAAGCCGCAGACCTTGTGATATTCCAGAGTAAGA AGGCAGTGCTTTCCATCACCACTGGTGGCAGTGGCTCCATGTACTCTCTGCAAGGGATCCACGGGGACATGAATG TCATTCTCTGGCCAATTCAGAGTGGCATTCTGCATTTCTGTGGCTTCCAAGTCTTAGAACCTCAACTGACATATA GCATTGGGCACACTCCAGCAGACGCCCGAATTCAAATCCTGGAAGGATGGAAGAAACGCCTGGAGAATATTTGGG AGGTACAGGATGAGGAGAAAAACAAGAAATTTGGCCTTTCTGTGGGCCATCACTTGGGCCAAGTCCATCCCAACTG ACAACCAGATCAAAGCTAGAAAATGAGATTCCTTAGCCTGGATTTCCTTAACATGTTATCAAATCTGGGTATC AATCGACTGTATTCGTGCATTTTTTGGATCATTTTTAACTGATTCTTATGATTACTATCATGGCATATAACCAAAA ACAATTTAATTCCTCTTTTTAGGGCTAAAGTTTTAGGGTACAGTTTGGCTAGGTATCATTCAACTCTCCAATGTT CTATTAATCACCTCTCTGTAGTTTATGGCAGAAGGGAATTGCTCAGAGAAGGAAAAGACTGAATCTACCTGCCCT AAGGGACTTAACTTGTTTGGTAGTTAGCCATCTAATGCTTGTTTATGATATTTCTTGCTTTCAATTACAAAGCAG TTACTAATATGCCTAGCACAAGTACCACTCTTGGTCAGCTTTTGTTGTTTATATACAGTACACAGATACCTTGAA CAGCAATTCTCCTGCCTCAGCCTCCCTAGTAGCTGGGATGACAGGCGCCTGCCATCATGCCTGACTAATTTTTGT CTCAGCCTCCCAAAGTGCTGGGATTACAGGCGTGA

WO 2004/030615 PCT/US2003/028547

4936/6881 FIGURE 4556

GCAGGACATCGGGAAGAACATTTACACCATCCGGGAGGTGGTCACTGAGATTCGGGACAAGGCCACACGCAGGCG GCTCGCTGTCCTGCCCTACGAGCTGCGGTTCAAGGAGCCCTTACCGGAATACGTGCGGCTGGTGACTGAGTTTTC AAAGAAAACAGGAGACTACCCCAGCCTCTCTGCCACGGACATCCAAGTGCTTGCACTCACATACCAGTTGGAAGC AGAGTTTGTTGGGGTGTCTCACCTAAAACAAGAACCACAGAAGGTTAAGGTGAGCTCATCGATTCAGCACCCAGA AACACCTCTGCACATTTCTGGTTTCCATCTGCCCTACAAGCCTAAACCCCCACAAGAAACAGAAAAAGGACACTC AGCTTGTGAGCCTGAGAACCTGGAATTTAGTTCCTTCATGTTCTGGAGAAACCCTTTGCCCAACATCGATCATGA ACTGCAGGAGCTGCTGATTGACAGAGGTGAGGACGTTCCAAGTGAGGAGGAGGAGGAGGAAGAAAACGGGTTTGA AGACAGAAAAGATGACAGCGATGACGACGGGGGTGGCTGGATAACCCCCAGTAACATCAAGCAGATCCAGCAGGA GCTGGAGCAGTGTGACGTCCCCGAGGACGTGCGGGTTGGCTGCCTGACCACAGACTTCGCCATGCAGAATGTTCT GCTGCAGATGGGGCTGCACGTGCTGGCGGTGAACGGCATGCTGATTCGTGAGGCCCGGAGCTACATCTTGCGCTG CCATGGCTGTTTCAAGACAACGTCTGACATGAGCCGAGTGTTCTGCTCACACTGTGGGAACAAGACCCTGAAGAA AGTGTCCGTGACCGTCAGCGACGACGCACCCTGCACATGCACTTCTCCCGCAACCCCAAGGTGCTGAACCCCCG $\tt CGGCCTCCGGTACTCCCACTCCCAAAGGGGGCAAATACGCCATCAACCCCCATCTCACCGAGGATCAGCG$ CTTCCCTCAGCTGCGACTCTCCCAAAAGGCCAGGCAGAAAACCAACGTGTTCGCCCCTGACTACATCGCCGGGGT GTCACCCTTTGTCGAGAATGACATCTCCAGCCGCTCAGCTACCCTGCAGGTCCGGGACAGCACCTTGGGAGCTGG GCGGAGACGCTTAAATCCCAACGCTTCCAGAAAGAAGTTTGTGAAGAAAAGG<u>TGA</u>AGAGCGAGTTCCCGCAGGCA AATTGGATGGCCGTCTGGCCGTGGAGTTCCGGTGACCCATTTCCCCAGCCGTGTCGTCTCCCAGGACCACCCG ATGGAAATAACAGGCGGGCTTCACGGTGCGGCTCTGTCCGCCCATGCCCCGCTGGGTCTGCAGGGAACTGGACTG CGCCCTGGAGCCAATCTTCAAGAAAGGAATTTCCAAAGGATAATATTTTTCTAATAAATGCGGCTGCAACCTCCT GTGCATTTAATTAAATAGGCCAAATTTTTGCTGCTTAGGTCATCTCAAGGCTGATACTTGAGCTGTGTGCCCAGA AAAAAAA

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4937/6881 FIGURE 4557

MAPVEHVVADAGAFLRHAALQDIGKNIYTIREVVTEIRDKATRRLAVLPYELRFKEPLPEYVRLVTEFSKKTGD YPSLSATDIQVLALTYQLEAEFVGVSHLKQEPQKVKVSSSIQHPETPLHISGFHLPYKPKPPQETEKGHSACEPE NLEFSSFMFWRNPLPNIDHELQELLIDRGEDVPSEEEEEEEENGFEDRKDDSDDDGGGWITPSNIKQIQQELEQCD VPEDVRVGCLTTDFAMQNVLLQMGLHVLAVNGMLIREARSYILRCHGCFKTTSDMSRVFCSHCGNKTLKKVSVTV SDDGTLHMHFSRNPKVLNPRGLRYSLPTPKGGKYAINPHLTEDQRFPQLRLSQKARQKTNVFAPDYIAGVSPFVE NDISSRSATLQVRDSTLGAGRRRLNPNASRKKFVKKR

CTTTTCTCGGGACGGGAGAGCCGTGTAGCGTCGCCGTTACTCCGAGGAGAGCCAGTCGGTAGAGGAGAAGTCC AGGTTAGAGGGAAGTGGGAGGCACTTTGCTGTCTTCAATCGAAGTTGAGGGTGCAAAAATGCAGAGTAATAAAAC TTTTAACTTGGAGAAGCAAAACCATACTCCAAGAAAGCATCATCAACATCACCACCAGCAGCAACAGCTGCAGCC GCCACCACCGCCAATACCTGCAAATGGGCAACAGGCCAGCAGCCAAAATGAAGGCTTTGACTATTTGGCCTGAAG AATTTTAGAAAACCAGGAGAGAGACCTTCACCCAACGAAGCCGTCTTTTTGTGGGAAATCTTCCTCCCGACATC $\tt TTTGGCTTTATCCGCTTGGAAACACGAACCCTAGCGGAGATTGCGAAAGTGGAGCTGGACAAT \underline{ATG} \texttt{CCACTCTGT}$ GGAAAGCAGCTGCGTGTGCGCTTTTCCTGCCATAGTGCATCCCTTACAGTTCGAAACCTTCCTCAGTATGTGTCC AACGAAGTGCTGGAAGAAGCCTTTTCTGTGTTTGGCCAGGTAGAGAGGGCTGTAGTCATTGTGGATGATCGAGGA GGCTCCTTCCTGCTAACCACATTTCCTCGTCCTGTGACTATGGAGCCCATGGACCAGTTAGATGATGAAGGGGGA CTTCCAGAGAAGCTGGTTATAAAAAACCAGCAATTTCACAAGGAACGAGAGCAACCACCCAGATTTGCACAGCCT GGCTCCTTTGAGTATGAATATGCCATGCGCTGGAAGGCACTCATTGAGATGGAGAAGCAGCAGCAGGACCAAGTG GACCGCAACATCAAAGAGGCTCGTGAGAAGCCAGAGATGGAGATGGAGGCTGCACGCCATAAGCACCAGGTCATG CTAATGAGACAGAATTTGATGAGGCGCCAAGAAGAACTTCGGAGGATGGAAGAGCTGCACAACCAAGAGGTGCAA GAAATGATGCAGCCACAGCAGGAAGGATTCAAGGGAACCTTCCCTGATGTGAGAGAGCAGGAGATTTGGATGGGT $\tt CCAGCTCCTCCAGGACCTGCCACTATGATGCCGGATGGAACTTTGGGATTGACCCCACCAACAACTGAACGCTTT$ GGTCAGGCTGCTACAATGGAAGGAATTGGGGCAATTGGTGAAACTCCTCCTGCATTCAACCATGCAGCTCCTGGA $\texttt{GCTGAATTTGCTCCAAACAAACGTCGCCGATAC} \underline{\textbf{TAA}} \underline{\textbf{TAAGTTGCAGTGTCTAGTTTCTCAAAACCCTTAAAAGAA}$ ${\tt AGTATATTATTAATCAGTTCTGTGTGGTGCATTCCTGAAGTCTCAAATGTGATTGTTGAGGGCCTGGGGAAACC}$ TTTTTTTTTTTTTTTTCATCTTGCTTGCCCTGCCCCCGAGATGGAGTCTTACTCTGTCGCCCAGGCT GGAGTGTAGTGGCACGATCTCGGCTCACTGCAATCTCTGCCTCTCGGGTTCAAGCTTGTCCAGGCTGATCTTGAA CTCCTGACCTCGTGATCCCCTGCCTCAGCCTCCCAAAATGCTGGGATTACAGGGGTGAGCCACCGTGCCCAACCT CACTTGCTTTCTTATCCTTACACTCCCCAGTCCCAGAGAAACTGCCACATACACCACAAAAAACCAAAACATCCCC CAATGACCTTAGCCGCATTGCTCCATTCACTCCCAGGTGAGAATTCAGGTAAACGTCCACAAAGGTCACAGGCAA CGTACATACGGTTCTATTATATCCCATATATTACCCCTTCATGTCCTAAAGAAGACATTTTCTCTTAGAGATTTT CATTTTAGTATATCTTTAAAAAAAAATCTTGTGTTAACTTGCCTCCATCTTTTTCTTGGGTGAGGACACCCAGGA ATGACCCTTTTGTGTCTATGATACTGCTGTTCACAGCTTTTCTTGATAGGCCTAGTACAATCTTGGGAACAGGGT ATTGGTGTATTGTATTTGATTTGTCTCTGATATTTTGGAGTTTTTCTGAGAACTGGAGCAGTAATGCAGCATCG **ACCTATTAAAATACATTTTAAGCCTTT**

MPLCGKQLRVRFSCHSASLTVRNLPQYVSNEVLEEAFSVFGQVERAVVIVDDRGRPSGKGIVEFSGKPAAGKALD RRSEGSFLLTTFPRPVTMEPMDQLDDEGGLPEKLVIKNQQFHKEREQPPRFAQPGSFEYEYAMRWKALIEMEKQQ QDQVDRNIKEAREKPEMEMEAARHKHQVMLMRQNLMRRQEELRRMEELHNQEVQKRKQLELRQEEERRRPEEEMR RQQEEMMQPQQEGFKGTFPDVREQEIWMGQMAMGGAMGINSRGALTPAPVPAGTPAPPGPATMMPDGTLGLTPPT TERFGQAATMEGIGAIGETPPAFNHAAPGAEFAPNKRRRY

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GCAGTGAAGGCTCCTTCCTGCTAACCACATTTCCTCGTCCTGTGACTATGGAGCCCATGGACCAGTTAGATGATG
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CACAGCCTGGCTCCTTTGAGTATGAATATGCCATGCGCTGGAAGGCACTCATTGAGATGGAGAAGCAGCAGCAGG
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CGCATTGCTCCATTCACTCCCAGGTGAGAATTCAGGTAAACGTCCACAAAAGGTCACAGGCAACGTACATACGGTT
CTATTATATCCCATATATTACCCCTTCATGTCCTA

AGTGGTGTCCGCAAAGCCCAAGGTGCATAATCGTCAACCTCGAATTAACTCCTACGTGGAGGTGGCGGTGGATGG ACTCCCCAGTGAGACCAAGAAGACTGGGAAGCGCATTGGGAGCTCTGAGCTTCTCTGGAATGAGATCATCATTTT GAATGTCACGGCACAGAGTCATTTAGATTTAAAGGTCTGGAGCTGCCATACCTTGAGAAATGAACTGCTAGGCAC $\tt CGCATCTGTCAACCTCTCCAACGTCTTGAAGAACAATGGGGGCCAAAATGGAGAACATGCAGCTGACCCTGAACCT$ GCAGACGGAGAACAAAGGCAGCGTTGTCTCAGGCGGAGAGCTGACAATTTTCCTGGACGGGCCAACTGTTGATCT GGGAAATGTGCCTAATGGCAGTGCCCTGACAGATGGATCACAGCTGCCTTCGAGAGACTCCAGTGGAACAGCAGT AGCTCCAGAGAACCGGCACCAGCCCCCAGCACAAACTGCTTTGGTGGAAGATCCCGGACGCACAGACATTCGGG TGCTTCAGCCAGAACAACCCCAGCAACCGGCGAGCAAAGCCCCGGTGCTCGGAGCCGGCACCGCCAGCCCGTCAA GAACTCAGGCCACAGTGGCTTGGCCAATGGCACAGTGAATGATGAACCCACAACAGCCACTGATCCCGAAGAACC TTCCGTTGTTGGTGTGACGTCCCCACCTGCTGCACCCTTGAGTGTGACCCCGAATCCCAACACGACTTCTCTCCC TGCCCCAGCCACACCGGCTGAAGGAGGAACCCAGCACTTCGGGTACACAGCAGCTCCCAGCGGCTGCCCAGGC CCCCGACGCTCTGCCTGCATGGGAACAGCGAGAGCTGCCCAACGGACGTGTCTATTATGTTGACCACAATAC CAAGACCACCACCTGGGAGCGGCCCCTTCCTCCAGGCTGGGAAAAACGCACAGATCCCCGAGGCAGGTTTTACTA TGTGGATCACAATACTCGGACCACCACCTGGCAGCGTCCGACCGCGGAGTACGTGCGCAACTATGAGCAGTGGCA GTCGCAGCGGAATCAGCTCCAGGGGGCCATGCAGCACTTCAGCCAAAGATTCCTCTACCAGTCTTCGAGTGCTTC GACTGACCATGATCCCCTGGGCCCCCTCCCTGGCTGGGAGAAGAGACAGGACAATGGACGGGTGTATTACGT GAACCATAACACTCGCACGACCCAGTGGGAGGATCCCCGGACCCAGGGGATGATCCAGGAACCAGCTCTGCCCCC AGGATGGGAGATGAAATACACCAGCGAGGGGGGGGGGGTGCGATACTTTGTGGACCACAATACCCGCACCACCACCTTTAA GGATCCTCGCCCGGGGTTTGAGTCGGGGACGAAGCAAGGTTCCCCTGGTGCTTATGACCGCAGTTTTCGGTGGAA GCTTTTCGAAGATTCCTTCCAACAGATCATGAACATGAAACCCTATGACCTGCGCCGCCGGCTCTACATCATCAT GCGTGGCGAGGGGCCTGGACTATGGGGGCATCGCCAGAGAGTGGTTTTTCCTCCTGTCTCATGAGGTGCTCAA CCCGGACCACCTCACCTACTTTCGCTTTATAGGCAGATTCATCGCCATGGCGCTGTACCATGGAAAGTTCATCGA CACGGGCTTCACCCTCCCTTTCTACAAGCGGATGCTCAATAAGAGACCAACCCTGAAAGACCTGGAGTCCATTGA CCCTGAGTTCTACAACTCCATTGTCTGGATCAAAGAGAACCTGGAAGAATGTGGCCTGGAGCTGTACTTCAT GGAGAACAAGGAAGAGTACATCATGCTGCTGACTGACTGGCGTTTCACCCGAGGCGTGGAAGAGCAGACCAAAGC CTTCCTGGATGGCTTCAACGAGGTGGCCCCGCTGGAGTGGCTGCGCTACTTTGACGAGAAAGAGCTGGAGCTGAT GCTGTGCGGCATGCAGGAGATAGACATGAGCGACTGGCAGAAGAGCACCATCTACCGGCACTACACCAAGAACAG CAAGCAGATCCAGTGGTTCTGGCAGGTGGTGAAGGAGATGGACAACGAGAAGAGGATCCGGCTGCAGTTTGT CACCGGTACCTGCCGCCGTCGGGGGATTTGCCGAACTCATCGGTAGCAACGGACCACAGAAGTTTTGCAT TGACAAAGTTGGCAAGGAAACCTGGCTGCCCAGAAGCCACACCTGCTTCAACCGTCTGGATCTTCCACCCTACAA GAGCTACGAACAGCTGAGAGAGAAGCTGCTGTATGCCATTGAGGAGACCGAGGGCTTTGGACAGGAGTAACCGAG CCTTGGGAGGCCCCCGTGGATGTGGCCCTGTGTGGGACCACACTGTCATCTCGCTGCTGGCAGAAAAGCCTGATC CCAGGAGGCCCTGCAGTTCCCCCGACCCGCGGATGGCAGTCTGGAATAAAGCCCCCTAGTTGCCTTTGGCCCCAC CTTTGCAAAGTTCCAGAGGGCTGACCCTCTCTGCAAAACTCTCCCCTGTCCTCTAGACCCCACCCTGGGTGTATG TGAGTGTGCAAGGGAAGGTGTTGCATCCCCAGGGGCTGCCGCAGAGGCCGGAGACCTCCTGGACTAGTTCGGCGA ${\tt GGAGACTGGCCACTGGGGGTGGCTGTTCGGGACTGAGAGCGCCAAGGGTCTTTGCCAGCAAAGGAGGTTCTGCCT}$ GTAATTGAGCCTCTCTGATGATGGAGATGAAGTGAAGGTCTGAGGGAGCCGGGCCCTGGGGCCGAGGCCATCTCTGC AATGAAGGTTTGTCTAAGCTGCCTGGGTATCCACGGGACAAAAACAGCAAACTCCCTCAGACTTTGTCCATGTAT AAACTTGAAGTGGTTGTTGTAGGGTTGCAGGTTTTTTGTTACGCTGCTGTCACTTTCTGTC

MASASSSRAGVALPFEKSQLTLKVVSAKPKVHNRQPRINSYVEVAVDGLPSETKKTGKRIGSSELLWNEIIILNV
TAQSHLDLKVWSCHTLRNELLGTASVNLSNVLKNNGGKMENMQLTLNLQTENKGSVVSGGELTIFLDGPTVDLGN
VPNGSALTDGSQLPSRDSSGTAVAPENRHQPPSTNCFGGRSRTHRHSGASARTTPATGEQSPGARSRHRQPVKNS
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EMKYTSEGVRYFVDHNTRTTTFKDPRPGFESGTKQGSPGAYDRSFRWKYHQFRFLCHSNALPSHVKISVSRQTLF
EDSFQQIMNMKPYDLRRRLYIIMRGEEGLDYGGIAREWFFLLSHEVLNPMYCLFEYAGKNNYCLQINPASSINPD
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GMQEIDMSDWQKSTIYRHYTKNSKQIQWFWQVVKEMDNEKRIRLLQFVTGTCRLPVGGFAELIGSNGPQKFCIDK
VGKETWLPRSHTCFNRLDLPPYKSYEQLREKLLYAIEETEGFGQE

 ${\tt CGACCCTAGGAGAGTTCTTTGGGGTGACTTTCAAG}$ TTATAGATTTCTTCAAGAGGAACGAGCATACGTATGTTCACTCGTCTGCCACCATCCCATTGGATGACCCCACTT TGCTCTTTGCCAATGCAGGCATGAACCAGTTTAAACCCATTTTCCTGAACACAATTGACCCATCTCACCCCATGG GCAAGGATGTCTATCACACCCTTCTTCGAGATGCTGGGCTCTTGGTCTTTTGGAGATTACTTTAAGGAATTGG GCGGGGATGAAGCAGCTGGCTTAGAAGCAGATCTGGAATGCAAACAGATCTGGCAAAATTTTGGGGCTGGATGACA CCAAAATCCTCCCAGGCAACATGAAGGATAACTTCTGGGAGATGGGTGACACGGGCCCCTGTGGTCCTTGCAGTG AGATCCACTACGACCGGATTGGTGGTCGGGACGCCGCACATCTTGTCAACCAGGACGACCCTAATGTGCTGGAGA TCTGGAACCTTGTGTTCATCCAGTATAACAGGGAAGCTGATGGCATTCTGAAACCTCTTCCCAAGAAAAGCATTG ACACAGGGATGGGCCTGGAACGACTGGTATCTGTGCTGCAGAATAAGATGTCCAACTATGACACTGACCTTTTTG TCCCTTACTTTGAAGCCATTCAGAAGGGCACAGGTGCCCGACCATACACTGGGAAAGTTGGTGCTGAGGATGCCG ATGGGATTGACATGGCCTACCGGGTGCTGGCTGACCATGCTCGGACCATCACTGTGGCACTGGCTGATGGTGGCC GGCCTGACAACACAGGGCGTGGATATGTGTTGAGACGGATTCTCCGCCGAGCTGTCCGATACGCCCATGAAAAGC TCAATGCCAGCAGGGGCTTCTTTGCTACGTTAGTGGATGTTGTCGTCCAGTCCCTGGGAGATGCATTTCCTGAGC TGAAGAAGGACCCAGACATGGTGAAGGACATCATTAATGAAGAAGAGGTGCAGTTTCTCAAGACTCTCAGCAGAG GGCGTCGCATCCTGGACAGGAAAATTCAGAGCCTGGGAGACAGCAAGACCATTCCCGGAGACACTGCTTGGCTCC TCTATGACACCTATGGGTTTCCAGTGGATCTGACTGGACTGATTGCTGAAGAAAGGGCCCTGGTGGTAGACATGG ATGGCTTTGAAGAGGAGAGGAAACTGGCCCAGCTGAAATCACAGGGCAAGGGAGCTGGTGGGGAAGACCTCATTA TGCTGGACATTTACGCTATCGAAGAGCTCCGGGCACGGGGTCTGGAGGTCACAGATGATTCCCCAAAGTACAATT ACCATTTGGACTCCAGTGGTAGCTATGTATTTGAGAACACAGTGGCTACGGTGATGGCTCTGCGCAGGGAGAAGA TGTTCGTGGAAGAGGTGTCCACAGGCCAGGAGTGTGGAGTGGTGCTGGACAAGACCTGTTTCTATGCTGAGCAAG GAGGCCAGATCTATGACGAAGGCTACCTGGTGAAGGTGGATGACAGCAGTGAAGATAAAACAGAGTTTACAGTGA AGAATGCTCAGGTCCGAGGAGGGTATGTGCTACACATTGGAACCATCTACGGTGACCTGAAAGTGGGGGATCAGG CCCTGCGCTCAGTGCTTGGGGAAGCTGACCAGAAAGGCTCATTGGTTGCTCCTGACCGCCTCAGATTTGACTTTA CTGCCAAGGGAGCCATGTCCACCCAACAGATCAAGAAGGCTGAAGAGATTGCTAATGAGATGATTGAGGCAGCCA AGGCCGTCTATACCCAGGATTGCCCCCTGGCAGCAGCGAAAGCCATCCAGGGCCTACGGGCTGTGTTTGATGAGA CCTATCCTGACCCTGTGCGAGTCGTCTCCATTGGGGTCCCGGTGTCCGAGTTGCTGGATGACCCCTCTGGGCCTG CTGGCTCCCTGACTTCTGTTGAGTTCTGTGGGGGAACGCACCTGCGGAACTCGAGTCATGCAGGAGCTTTTGTGA TCGTGACGGAAGAAGCCATTGCCAAGGGTATCCGGAGGATTGTGGCTGTCACAGGTGCCGAGGCCCAGAAGGCCC TCAGGAAAGCAGAGAGCTTGAAGAAATGTCTCTCTGTCATGGAAGCCAAAGTGAAGGCTCAGACTGCTCCAAACA AGGATGTGCAGAGGGAGATCGCTGACCTTGGAGAGGCCCTGGCCACTGCAGTCATCCCCCAGTGGCAGAAGGATG AATTGCGGGAGACTCTCAAATCCCTAAAGAAGGTCATGGATGACTTGGACCGAGCCAGCAAAGCCGATGTCCAGA AACGAGTGTTAGAGAAGACGAAGCAGTTCATCGACAGCAACCCCAACCAGCCTCTTGTCATCCTGGAGATGGAGA GCGGCGCCTCAGCCAAGGCCCTGAATGAAGCCTTGAAGCTCTTCAAGATGCACTCCCCTCAGACTTCTGCCATGC TCTTCACGGTGGACAATGAGGCTGGCAAGATCACGTGCCTGTGTCAAGTCCCCCAGAATGCAGCCAATCGGGGCT TAAAAGCCAGCGAGTGGGTGCAGCAGGTGTCAGGCTTGATGGACGGTAAAGGTGGTGGCAAGGATGTGTCTGCAC ${\tt GGGATGTAAAGAAC} {\tt TGA} {\tt GTGGGGAAGGAGGAGGAGGCTCCCACTGGATCCATCCGTCCAGCCAAGAGCTCTTCATCTG}$ CTACAAGAACATTTGAATCTTGGGACCTTTAAAGAGCCCCTCCTAACCCAGCAGTAACTGGAACACACTTGGGAG CAGTCCTATGTCTCAGTGCCCCTTAAATTTCTGCCCTGAGCCCTCCACGTCAGTGCCATCGGTCTAGAACCACTA ACCCCGCATTGCTGTTGATCGTCACGCTCGCATCTATAGATAACGGCTCTCCAGACCTGAGCTTTCCGCGTCAGC AAGTAGGAATCGTTTTTGCTGCAGAGAATAAAAGGACCACGTGC

MDSTLTASEIRQRFIDFFKRNEHTYVHSSATIPLDDPTLLFANAGMNQFKPIFLNTIDPSHPMAKLSRAANTQKC IRAGGKQNDLDDVGKDVYHHTFFEMLGSWSFGDYFKELACKMALELLTQEFGIPIERLYVTYFGGDEAAGLEADL ECKQIWQNLGLDDTKILPGNMKDNFWEMGDTGPCGPCSEIHYDRIGGRDAAHLVNQDDPNVLEIWNLVFIQYNRE ADGILKPLPKKSIDTGMGLERLVSVLQNKMSNYDTDLFVPYFEAIQKGTGARPYTGKVGAEDADGIDMAYRVLAD HARTITVALADGGRPDNTGRGYVLRRILRRAVRYAHEKLNASRGFFATLVDVVVQSLGDAFPELKKDPDMVKDII NEEEVQFLKTLSRGRRILDRKIQSLGDSKTIPGDTAWLLYDTYGFPVDLTGLIAEEKGLVVDMDGFEEERKLAQL KSQGKGAGGEDLIMLDIYAIEELRARGLEVTDDSPKYNYHLDSSGSYVFENTVATVMALRREKMFVEEVSTGQEC GVVLDKTCFYAEQGGQIYDEGYLVKVDDSSEDKTEFTVKNAQVRGGYVLHIGTIYGDLKVGDQVWLFIDEPRRRP IMSNHTATHILNFALRSVLGEADQKGSLVAPDRLRFDFTAKGAMSTQQIKKAEEIANEMIEAAKAVYTQDCPLAA AKAIQGLRAVFDETYPDPVRVVSIGVPVSELLDDPSGPAGSLTSVEFCGGTHLRNSSHAGAFVIVTEEAIAKGIR RIVAVTGAEAQKALRKAESLKKCLSVMEAKVKAQTAPNKDVQREIADLGEALATAVIPQWQKDELRETLKSLKKV MDDLDRASKADVQKRVLEKTKQFIDSNPNQPLVILEMESGASAKALNEALKLFKMHSPQTSAMLFTVDNEAGKIT CLCQVPQNAANRGLKASEWVQQVSGLMDGKGGGKDVSAQATGKNVGCLQEALQLATSFAQLRLGDVKN

GTAGTGGGGCTGGAGCAGAGCCTGCCGCGAACCCCCGGAGCCCACGATCCCTCGTGCCATCCCTCGAATCCACCA GCACGAGCGTCCCACCCGCGCCTGGGACCATGCCCACTGACTCATGGGCCCTGGCGGTGGACGAGCAGGAAGCTG CGGCTGAGTCGTTGAGCAACTTGCATCTTAAGGAAGAGAAAATCAAACCAGATACCAATGGTGCTGTTGTCAAGA TCAGAAGCAACCTTGTTGATAACACAAACCAAGTGGAAGTCCTGCAGCGGGATCCAAACTCCCCTCTGTACTCGG TGAAGTCTTTTGAAGAGCTTCGGCTGAAACCACAGCTTCTCCAAGGAGTCTATGCCATGGGTTTCAATCGTCCAT CCAAGATACAAGAGAACGCATTGCCACTGATGCTTGCTGAGCCCCCACAGAACTTAATTGCCCAATCTCAGTCTG TATGTCTCTCCCCAACGTATGAGCTCGCCCTCCAAACAGGAAAAGTGATTGAACAAATGGGCAAATTTTACCCTG AACTGAAGCTAGCTTATGCTGTTCGAGGCAATAAATTGGAAAGAGGCCAGAAGATCAGTGAGCAGATTGTCATTG TGGATGAGGCTGATGTCATGATAGCCACTCAGGGCCACCAAGATCAGAGCATCCGCATCCAGAGGATGCTGCCCA GGAACTGCCAGATGCTGCTTTTCTCCGCCACCTTTGAAGACTCTGTGTGGAAGTTTGCCCAGAAAGTGGTCCCAG ACCCAAACGTTATCAAACTGAAGCGTGAGGAAGAGACCCTGGACACCATCAAGCAGTACTATGTCCTGTGCAGCA GCAGAGACGAGAAGTTCCAGGCCTTGTGTAACCTCTACGGGGCCATCACCATTGCTCAAGCCATGATCTTCTGCC ATACTCGCAAAACAGCTAGTTGGCTGGCAGCAGAGCTCTCAAAAGAAGGCCACCAGGTGGCTCTGCTGAGTGGGG AGATGATGGTGGAACAGAGGGCTGCAGTGATTGAGCGCTTCCGAGAGGGCAAAGAGAAGGTTTTGGTGACCACCA GGAATCCTGACAATGAGACCTACCTGCACCGGATCGGGCGCACGGGCCGCTTTGGCAAGAGGGGCCTGGCAGTGA ACATGGTGGACAGCAAGCACAGCATGAACATCCTGAACAGAATCCAGGAGCATTTTAATAAGAAGATAGAAAGAT TGGACACAGATGATTTGGACGAGATTGAGAAAATAGCCAACTGAGAAGCTCCACCAGCCACTGATGCCAGCCCTG GCACTGCCCTGCACAGGAGACAAGTGCGTTCAGGGCACAGGCCCCGACATCACCCCAAGGACAACGGCACAAGT AGAGAGAAACTACCTACCTCACTTCAAATTATGTTTGGACTTGACAAAAATGTATGCAAATGATGGGGGGATGGTA AAAAA

MATDSWALAVDEQEAAAESLSNLHLKEEKIKPDTNGAVVKTNANAEKTDEEEKEDRAAQSLLNKLIRSNLVDNTN QVEVLQRDPNSPLYSVKSFEELRLKPQLLQGVYAMGFNRPSKIQENALPLMLAEPPQNLIAQSQSGTGKTAAFVL AMLSQVEPANKYPQCLCLSPTYELALQTGKVIEQMGKFYPELKLAYAVRGNKLERGQKISEQIVIGTPGTVLDWC SKLKFIDPKKIKVFVLDEADVMIATQGHQDQSIRIQRMLPRNCQMLLFSATFEDSVWKFAQKVVPDPNVIKLKRE EETLDTIKQYYVLCSSRDEKFQALCNLYGAITIAQAMIFCHTRKTASWLAAELSKEGHQVALLSGEMMVEQRAAV IERFREGKEKVLVTTNVCARGIDVEQVSVVINFDLPVDKDGNPDNETYLHRIGRTGRFGKRGLAVNMVDSKHSMN ILNRIQEHFNKKIERLDTDDLDEIEKIAN

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MAAVQAAEVKVDGSEPKLSKNELKRRLKAEKKVAEKEAKQKELSEKQLSQATAAATNHTTDNGVGPEEESVDPNQ
YYKIRSQAIHQLKVNGEDPYPHKFHVDISLTDFIQKYSHLQPGDHLTDITLKVAGRIHAKRASGGKLIFYDLRGE
GVKLQVMANSRNYKSEEEFIHINNKLRRGDIIGVQGNPGKTKKGELSIIPYEITLLSPCLHMLPHLHFGLKDKET
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AAGATGGCGGACCTTGATTCGCCTCCGAAGCTGTCAGGGGTGCAGCAGCCGTCTGAGGGGGTGGGAGGTGGCCGC TGCTCCGAAATCTCCGCTGAGCTCATTCGCTCCCTGACAGAGCTGCAGGAGCTGGAGGCTGTATACGAACGGCTC TGCGGCGAGGAGAAAGTGGTGGAGAGAGAGCTGGATGCTCTTTTGGAACAGCAAAACACCATTGAAAGTAAGATG TTTACCTGCAACCTGGCTGAGAATGTGTCCAGCAAAGTTCGTCAGCTTGACCTGGCCAAGAACCGCCTCTATCAG GATTATGAGCAGGCTGCAGCACATACTCATCGCTACTTGTGCCTGGACAAGTCGGTCATTGAGCTCAGCCGACAG GGCAAAGAGGGGAGCATGATTGATGCCAACCTGAAATTGCTGCAGGAAGCTGAGCAACGTCTCAAAGCCATTGTG GCAGAGAAGTTTGCCATTGCCACCAAGGAAGGTGATCTGCCCCAGGTGGAGCGCTTCTTCAAGATCTTCCCACTG CTGGGTTTGCATGAGGAGGGATTAAGAAAGTTCTCGGAGTACCTTTGCAAGCAGGTGGCCAGTAAAGCTGAGGAG AATCTGCTCATGGTGCTGGGGACAGACATGAGTGATCGGAGAGCTGCAGTCATCTTTGCAGATACACTTACTCTT CTGTTTGAAGGGATTGCCCGCATTGTGGAGACCCACCAGCCAATAGTGGAGACCTATTATGGGCCAGGGAGACTC AGGGACTACCACCAGCAGTTCCGGCATGTTCAGAACAACCTGATGAGAAATTCTACAACAGAAAAATCGAACCA AGAGAACTGGACCCCATCCTGACTGAGGTCACCCTGATGAATGCCCGCAGTGAGCTATACTTACGCTTCCTCAAG AAGAGGATTAGCTCTGATTTTGAGGTGGGAGACTCCATGGCCTCAGAGGAAGTAAAGCAAGAGCACCAGAAGTGT ${ t CTGGACAAACTCCTCAATAACTGCCTTTTGAGCTGTACCATGCAGGAGCTAATTGGCTTATATGTTACCATGGAG$ GAGTACTTCATGAGGGAGACTGTCAATAAGGCTGTGGCTCTGGACACCTATGAGAAGGGCCAGCTGACATCCAGC TGTGCCATGATCAACCTCGCCACCACAGAGCTGGAGTCTGACTTCAGGGATGTTCTGTGTAATAAGCTGCGGATG GGCTTTCCTGCCACCACCTTCCAGGACATCCAGCGCGGGGTGACAAGTGCCGTGAACATCATGCACAGCAGCCTC AACGTGGAAGTCTGCAGTGAAAACATCTCCACTCTGAAGAAGACACTGGAGAGTGACTGCACCAAGCTCTTCAGC CAGGGCATTGGAGGGGGAGCAGGCCAAGTTTGACAGCTGCCTTTCTGACTTGGCCGCCGTGTCCAACAAA TTCCGAGACCTCTTGCAGGAAGGGCTGACGGAGCTCAACAGCACAGCCATCAAGCCACAGGTGCAGCCTTGGATC AACAGCTTTTTCTCCGTCTCCCACAACATCGAGGAGGAAGAATTCAATGACTATGAGGCCAACGACCCTTGGGTA CAACAGTTCATCCTTAACCTGGAGCAGCAAATGGCAGAGTTCAAGGCCAGCCTGTCCCCGGTCATCTACGACAGC CTAACCGGCCTCATGACTAGCCTTGTTGCCGTCGAGTTGGAGAAAGTGGTGCTGAAATCCACCTTTAACCGGCTG GGTGGTCTGCAGTTTGACAAGGAGCTGAGGTCGCTCATTGCCTACCTTACCACGGTGACCACCTGGACCATCCGA GACAAGTTTGCCCGGCTCTCCCAGATGGCCACCATCCTCAATCTGGAGCGGGTGACCGAGATCCTCGATTACTGG GGACCCAATTCCGGCCCATTGACGTGGCGCCTCACCCCTGCTGAAGTGCGCCAGGTGCTGGCCCTGCGGATAGAC TTCCGCAGTGAAGATATCAAGAGGCTGCGCCTGTAGCTGCCTGGATGAGCACACCTGGCTCATCACACTTGCAGG TTTCTACGGCTGGCAGAGAAACAAAGTCTGGACCCACTCCATGCTCTGCCCTCAGACCTGGCCAGGTGATGC CCCAGGCCAGCTTTCTGCATGGATGGTCAGTCTCTTGCCCTCAAACACTACAGCAAACAAGCTACCCCTGCCAGT CCTAGACAACTTGGGGTACATCTGGGGACCTAGCAGTTAGGCTTGACTTTGAGGAGAGGCTGTGATGTTTATGATC

GTGGCAGCGGCTGGCGGCAAAACCTCTCGAGTGAGCCCCTGCCCGAGTGCCGCGGGGGAGAGGCCGCGAGCGGGA CCGAGAAGTGGGCTGGGAGCAGAGGTCGCGGAGGTGGCGAGGCGGGGCCCAGGCGGGGACCGGCAGGGGCC GAGGGAGGTAAACAGCCCTGCAGGCCTCGGGGCACCGTTGCTGGGCGCGCCGCGGCGCATGTGCGAGGGCCCGTC CCGCATCTCGGGGCCCATCCCCCAGACCCGACGCTCTGTCCTGACAACTACAGGCGGCCGACCTCGGCTCAAGG GCGCCTCGAGGGAAACGCGCTGAAGCTGGACTTGCTGACTTCCGACCGGGCCCTGGACACCACCGCTCCCCGTGG CCCCTGCATCGGTCCCGGTGCCGGAGAGATCCTGGAGCGCGGCCAGCGCGGCGTCGGGGACGTGCTGTTGCAACT GCGGATCAGGGAGATTCAGAAGCGCTTCAGAGAACAGGAGCGCAGCCGGGAGCAGGGCCAGCCCAGGCCCCTGAA AGCTCTGTGGCGCTCACCCAAGTACGACAAGGTGGAGTCCCGGGTCAAGGCCCAGCTCCAGGAGCCTGGCCCTGC CTCTGGGACAGAGTCTGCCCACTTCCTGCGGGCGCACTCCCGCTGCGCCCTGGCCTCCCACCACCCCATGTATC TAGTCCCCAGCCACCACCAGGTCCCGAAGCTAAGGAGCCAGGCCTGGGGGTGGACTTCATTCGTCACAATGC ACGAGCTGCCAAGAGAGCCCCCCGGAGGCATTCCTGCTCACTGCAGGTCCTGGCACAAGTGCTAGAGCAGCAGCA GCAGGCCCAGGAGCACTACAATGCCACGCAGAAGGGCCATGTGCCACATTACTTGTTGGAGCGCAGGGACCTGTG GCGGCGGAGGCCGAGGCCGCAAGCAGAGCCGGACCTGCCATGCCCCAGGCCACACGCGCATGCCTGA GAACCAGCGGCTGGAAACACTGACCAAGCTGCTCCAGAGCCAGAGCCAGCTGCTGCGTGAGCTGCTGCTGCC TGCTGGGGCAGACTCACTGAGAGCCCAGAGCCACCGTGCTGAGCTGGACCGGAAGCTGGTGCAGGTAGAGGAGGC GCTCCATGCTGAGGATCGCCACATGCCTGCAAAGGACAGGGTTGGACCCAATCCCAGAGCAGAGGTCTGAAGACA GGAGCAGGGGGGTGGCCAGTGTCCCTAGAGCACTCTTCCCAGTCACCAGTGGCTGCAGAAGGGCCACCCTAGCCT

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AAAAAAAAAAACCAGGCGGCGCGTTCCCGGTGGCGCGCCCTGGACTCCCGGGCCCGCCATCCCCGCCAGCCT TCCTTAAGGCGGATGGCTCCCCGAGACCCCGTCGGACCCATGGTTTCCAGTGCAGCGCGGAGTGGGCGGTGC CAGCGTGCCAGGAGCCATGTCTGACCAGGACGTTTGGAAGATCATATCCATGCCAGAGGCTCTTGTGGGGAGATG AGTTGGTAAAGAGAGAGGCTGGGATGAAGATGCTGCCAGGAGTGGACGTGTTTTGGGACTGGCAGCTCCGCCCGAG TTCTGGTCCCACTGCTGAGGGCAGAAGGGTTCACTGTTGAGGCCCTGTGGGGGAAGACTGAGGAGGAGGCGAAGC AGCTTGCTGAGGAGATGAACATCGCCTTCTACACCAGCCGGACTGATGACATCTTGCTGCATCAAGATGTGGATC TGGTGTGCATCACCCCCCTCCACTCACCCGGCAGATATCCGTGAAGGCTCTAGGTATTGGGAAGAATGTGG TTTGCGAGAAGGCAGCAACATCGGTGGATGCCTTCCGGATGGTGACAGCCTCGCGCTACTACCCGCAGCTCATGA GCCTGGTAGGGAACGTGCTGCGTTCCTGCCTTCGTGCGCATGAAACAGCTGATTTCGGAACACTATGTGG GAGCGGTGATGATCTGTGATGCCCGCATCTACTCAGGCAGCCTGCTGAGCCCCAGCTATGGCTGGATCTGTGATG GAGCCGAGAAGGTGCACGGGCTGCTCAAGACATTCGTGAGGCAGAACGCTGCCATCCGTGGCATCCGGCACGTCA TGCCAGGCGCCTTTGTGCATGAAGTCATGGTGGTAGGCTCTGCAGGACGCCTCGTCGCCCGGGGAGCCGACCTCT ATGGGCAGAAGAACTCTGCCACGCAAGAGGAGCTGCTCTTGAGGGACTCGCTGGCAGTGGGCGCAGGACTGCCTG AGCAGGGGCCCCAGGATGTCCCGCTGCTGTACCTGAAGGGCATGGTCTACATGGTGCAGGCCTTGCGCCAGTCCT TCCAGGGGCAGGCGACCGCACCTGGGACCGCACCCCTGTCTCCATGGCCGCCTCCTTCGAGGATGGGCTGT ACATGCAGAGCGTGGTGGATGCCATCAAGAGGTCGAGCCGATCCGGGGAGTGGGAGGCTGTGGAGGTGCTGACGG AGGAGCCCGACACCAACCAGAACCTGTGTGAGGCACTTCAGCGGAACAACCTATGAGCCTGCACCTGGGCTCCTT GCCACAGGGCAGAGGGACCAGGGAGGGGAACAGGAGCCAGACATGACAGGGACTTGGCCCTAGCAGAGACAGTGT CTTTCATTTGATGAGTCTGGGTGAAGCCAGAGGTGGCTCTGGGACTTCGCCCCCTCCAGTGGCTCACCTGCTCCT CAGACTTGCAGGGTGGCAAATGTTCCTGTTGCCAGGTTACCACGGTGTGCACAGGGCAGAGCTGCCGCCAGGCCT CCTCATGGTGATGCCAGTGAGTCGGACCAGGAAAGGCTCACCCTGGGGAGCCCTTCAGCCTGATCCGCAGTCCTA ACAGGGTGAGAAAGCACAAGAGGGGCCAGCTCGGCTGAGGCCTGAGGAGAAATGATGAGAAGTTTTGTTTCGTTC TTGGGCTGGGGCATCTCAGGAACAGTGAGGGCAACAAGCTGTCCCTCAGGGACCCTCACCTGCCCTCCCATGTGA **ААААААААААААА**

MKMLPGVDVFGTGSSARVLVPLLRAEGFTVEALWGKTEEEAKQLAEEMNIAFYTSRTDDILLHQDVDLVCISIPP PLTRQISVKALGIGKNVVCEKAATSVDAFRMVTASRYYPQLMSLVGNVLRFLPAFVRMKQLISEHYVGAVMICDA RIYSGSLLSPSYGWICDELMGGGGLHTMGTYIVDLLTHLTGRRAEKVHGLLKTFVRQNAAIRGIRHVTSDDFCFF QMLMGGGVCSTVTLNFNMPGAFVHEVMVVGSAGRLVARGADLYGQKNSATQEELLLRDSLAVGAGLPEQGPQDVP LLYLKGMVYMVQALRQSFQGQGDRRTWDRTPVSMAASFEDGLYMQSVVDAIKRSSRSGEWEAVEVLTEEPDTNQN LCEALQRNNL

PCT/US2003/028547

4955/6881 FIGURE 4575

WO 2004/030615 PCT/US2003/028547

4956/6881 FIGURE 4576

 ${\tt MGDKPIWEQIGSSFIQHYYQLFDNDRTQLGAIYIDASCLTWEGQQFQGKAAIVEKLSSLPFQKIQHSITAQDHQPTDSCIISMVVGQLKADEDPIMGFHQMFLLKNINDAWVCTNDMFRLALHNFG}$

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MLLLSLTLSLVLLGSSWGCGIPAIKPALSFSQRIVNGENAVLGSWPWQVSLQDSSGFHFCGGSLISQSWVVTAAH CNVSPGRHFVVLGEYDRSSNAEPLQVLSVSRAITHPSWNSTTMNNDVTLLKLASPAQYTTRISPVCLASSNEALT EGLTCVTTGWGRLSGVGNVTPAHLQQVALPLVTVNQCRQYWGSSITDSMICAGGAGASSCQGDSGGPLVCQKGNT WVLIGIVSWGTKNCNVRAPAVYTRVSKFSTWINQVIAYN

4961/6881 FIGURE 4581A

ACGATGCCTCACTTCACCGTGGTGCCAGTGGACGGGCCGAGGCGCGACTATGACAACCTCGAGGGGCTCAGT $\verb|CTTTCCCCCTTGGAGGCTTCCAGAGGAATTGACTATGACAGGAACCTGGCACTGTTTGAGGAAGAGCTGGAC| \\$ ATCCGCCCAAAGGTATCGTCTCTTCTGGGAAAGCTCGTCAGCTACACCTCACCCAGGGCGCCCAAAGAGCAT GAGGAGGCCGAGAGTGGGGAGGGCACCCGCGGAGGGCACCCAGCATGGGCACCCTCATGGGGGTG TACCTGCCTGCCTGCAGAATATCTTTGGGGTTATCCTCTTCCTGCGGCTGACCTGGATGGTGGGCACAGCAGGT GTGCTACAGGCCCTCCTCATCGTGCTTATCTGCTGCTGTTGTACCCTGCTGACGGCCATCTCCATGAGTGCCATC GCCACCAACGGTGTGCTTCCAGCTGGGGGCTCCTATTTCATGATCTCTCGTTCACTGGGGCCAGAATTTGGAGGT GCTGTGGGCCTGTGCTTCTACCTGGGAACAACATTCGCAGCAGCCATGTACATCCTGGGGGCCATCGAGATCTTG CTGACCTACATTGCCCCACCAGCTGCCATTTTTTACCCATCGGGTGCTCATGACACGTCGAATGCCACTTTGAAC AATATGCGTGTGTATGGGACCATTTTCCTGACCTTCATGACCCTGGTGGTGTTTTGTGGGGGGTCAAGTATGTGAAC AAATTTGCCTCGCTCTTCCTGGCCTGTGTGATCATCTCCATCTCCATCTATGCTGGGGGGCATAAAGTCTATA TTTGACCCTCCCGTGTTTCCGGTATGCATGCTGGGCAACAGGACCCTGTCCCGGGACCAGTTTGACATCTGTGCC AAGACAGCTGTAGTGGACAATGAGACAGTGGCCACCCAGCTATGGAGTTTCTTCTGCCACAGCCCCAACCTTACG ACCGACTCCTGTGACCCCTACTTCATGCTCAACAATGTGACCGAGATCCCTGGCATCCCCGGGGCAGCTGCTGGT GTGCTCCAGGAAAACCTGTGGAGCGCCTACCTGGAGAAGGGTGACATCGTGGAGAAGCATGGGCTGCCCTCCGCA GATGCCCCGAGCCTGAAGGAGAGCCTGCCTCTGTACGTGGTCGCTGACATCGCCACATCCTTCACCGTGCTGGTC GGCATCTTCTCCCTTCTGTAACAGGCATCATGGCTGGCTCAAACCGCTCTGGGGACCTTCGTGACGCCCAGAAG TCTATCCCTGTGGGGACCATTCTGGCCATCATTACAACTTCCCTCGTGTACTTCAGCAGTGTGGTTCTCTTTGGT GCCTGCATTGAGGGTGTGGTTCTCCGGGACAAGTATGGCGATGGTGTCAGCAGGAACTTGGTGGTGGGCACACTG GCCTGGCCTTCACCCTGGGTCATCGTCATCGGCTCCTTCTTTTCAACGTGTGGCGCTGGCCTCCAGAGCCTCACA GGGGCACCACGCCTATTGCAGGCCATTGCCAAGGACACATCATCCCCTTCCTCCGGGTGTTTTGGCCACGGGAAG GACATGGTGGCCCCCATCTTATCCATGTTCTTTCTGATGTGCTACCTGTTCGTGAACCTCGCCTGTGCGGTGCAG CTCTGCCTGGCCCTTATGTTTGTCTCCTCCTGGTACTATGCCCTGGTGGCCATGCTCATCGCCGGCATGATCTAC AAATACATCGAGTACCAAGGGGCTGAGAAGGAGTGGGGTGACGGGATCCGAGGCCTGTCCCTGAGCGCTGCCCGC TACGCGCTGTTGCGGCTGGAGGAGGGGCCTCCTCACACCAAGAACTGGCGGCCGCAGCTGCTGGTGCTGAAG CTGGACGAGGACCTCCACGTGAAGTACCCGCGGCTCCTCACCTTCGCCTCCCAGCTCAAGGCTGGCAAGGGCCTG ACCATTGTTGGTTCTGTCATCCAGGGGAGCTTCTTGGAGAGCTATGGCGAGGCTCAGGCCGCGAGCAGACCATC AAGAACATGATGGAAATTGAGAAGGTGAAGGGCTTCTGCCAGGTGGTGGTGGCCAGCAAGGTGCGGGAGGGGCTG GCCCACCTCATCCAGTCCTGTGGCCTGGGAGGCATGCGGCATAACTCCGTGGTGCTGGGCTGGCCCTACGGCTGG CGACAGAGCGAGGACCCCCGTGCCTGGAAGACCTTCATTGACACCGTGCGCTGCACTACGGCTGCCCACCTGGCC CTGCTCGTGCCCAAGAACATCGCCTTCTACCCCAGCAACCACGAGCGCTACCTGGAGGGCCACATAGACGTGTGG TGGATCGTGCACGATGGTGGCATGCTCATGCTTCTGCCCTTCCTGCTGCGCCAGCATAAGGTCTGGAGGAAGTGC CGGATGCGCATCTTCACAGTGGCCCAGATGGATGACACAGCATCCAGATGAAGAAGGACCTGGCTGTCTTTCTG TACCATCTGCGCCTTGAGGCCGAGGTGGAGGTGGTGGAGATGCATAACAGTGACATCTCTGCATACACCTACGAG CGGACGCTGATGATGGAGCAGCGGTCGCAGATGCTGCGGCAGATGAGACTGACCAAGACTGAGCGGGAGCGAGAA GCCCAGCTGGTCAAGGATCGGCACTCGGCCCTGAGGCTGGAGAGCCTGTACTCGGACGAGGAAGATGAGTCTGCA GTGGGGGCTGACAAGATCCAGATGACGTGGACCAGGGACAAGTACATGACTGAGACCTGGGACCCCAGCCATGCC CCTGACAATTTCCGGGAGCTGGTGCACATTAAGCCGGACCAATCCAATGTGCGGCGCATGCACACTGCTGTGAAG AGTGAGGGCGACGAGAACTACATGGAGTTCCTCGAGGTGCTGACCGAGGGCCTTGAGCGGGTGCTGTTGGTGCGC GGTGGTGGCCGTGAAGTCATCACCATCTACTCCTGAGCCCAGTGTCATCTTGTGGCCTGGAGTCGAGGTCTTGGC TGTCCTGGACCCAGCTTTGCTAGGTCTCCTTGGAAACCAGGCCTGGGCCTCAAAATGGAGATGGATCCCAGGTCT TGTGGGACCCTGGGATGTTTGGGGACTTTACTATCTAGCACCCCAGTAGGCCTGTCCTGGCCAGAGAAGACTGGT

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4962/6881 FIGURE 4581B

MPHFTVVPVDGPRRGDYDNLEGLSWVDYGERAELDDSDGHGNHRESSPFLSPLEASRGIDYYDRNLALFEEELDI RPKVSSLLGKLVSYTNLTQGAKEHEEAESGEGTRRAAEAPSMGTLMGVYLPCLQNIFGVILFLRLTWMVGTAGV LQALLIVLICCCCTLLTAISMSAIATNGVVPAGGSYFMISRSLGPEFGGAVGLCFYLGTTFAAAMYILGAIEILL TYIAPPAAIFYPSGAHDTSNATLNNMRVYGTIFLTFMTLVVFVGVKYVNKFASLFLACVIISILSIYAGGIKSIF DPPVFPVCMLGNRTLSRDQFDICAKTAVVDNETVATQLWSFFCHSPNLTTDSCDPYFMLNNVTEIPGIPGAAAGV LQENLWSAYLEKGDIVEKHGLPSADAPSLKESLPLYVVADIATSFTVLVGIFFPSVTGIMAGSNRSGDLRDAQKS IPVGTILAIITTSLVYFSSVVLFGACIEGVVLRDKYGDGVSRNLVVGTLAWPSPWVIVIGSFFSTCGAGLQSLTG APRLLQAIAKDNIIPFLRVFGHGKVNGEPTWALLLTALIAELGILIASLDMVAPILSMFFLMCYLFVNLACAVQT LLRTPNWRPRFKYYHWALSFLGMSLCLALMFVSSWYYALVAMLIAGMIYKYIEYQGAEKEWGDGIRGLSLSAARY ALLRLEEGPPHTKNWRPQLLVLLKLDEDLHVKYPRLLTFASQLKAGKGLTIVGSVIQGSFLESYGEAQAAEQTIK NMMEIEKVKGFCQVVVASKVREGLAHLIQSCGLGGMRHNSVVLGWPYGWRQSEDPRAWKTFIDTVRCTTAAHLAL LVPKNIAFYPSNHERYLEGHIDVWWIVHDGGMLMLLPFLLRQHKVWRKCRMRIFTVAQMDDNSIQMKKDLAVFLY HLRLEAEVEVVEMHNSDISAYTYERTLMMEQRSQMLRQMRLTKTEREREAQLVKDRHSALRLESLYSDEEDESAV GADKIQMTWTRDKYMTETWDPSHAPDNFRELVHIKPDQSNVRRMHTAVKLNEVIVTRSHDARLVLLNMPGPPRNS EGDENYMEFLEVLTEGLERVLLVRGGGREVITIYS

ATCGCCAGCCTCCAGTCCTCCACGACGCCCCTTCCCCAAGGCTGGCCGGGTCTGGATGTCGCCATCCCCT ATTCGGAGCTACAGACCTCGCAGCTGAACTCTTAAAAAGAACCTCGCTTCTTCCTCACGGTGCTCCAGCTCCACA CGCACTAAGGGAAACATGGCTCTAACGCGGCCGGTGCGGCTCTTTTCCCTCGTGACTCGGTTGCTCCTGGCGCCG CGACGGGGCCTCACGGTCCGCAGTCCCGACGAACCCCTGCCGGTGGTGCGCATCCCAGTGGCTCTACAGCGGCAG TTGGAACAGCGGCAGAGCAGGCGGGGAACCTCCCGAGGCCGGTGCTGGTTCGACCCGGACCGCTGCTGGTTTCG CCTGAAGTCGTTCAGCCCACAACCGTGCAGTCTAGCACCATCCCCTCACTACTTCGCGGCCGCCATGTCGTTTGC ATCAGGCTGCAGCTGTCCAGACAGCCTTCAGCAGATGTGCTTGTGGCCACTCCAGGGGCTCTGTGGAAGGCCCTG AAAAGTCGACTGATCAGTCTGGAGCAACTCTCCTTCTTGGTGTTGGATGAGGCAGACACACTGCTGGATGAAAGC TTCCTGGAACTGGTGGACTACATCTTAGAGAAGACCCACATAGCAGAAGGCCCAGCTGACTTGGAAGACCCCTTC AATCCCAAAGCTCAGTTAGTGCTGGTAGGAGCCACATTTCCCGAAGGTGTAGGCCAGTTGCTGAATAAAGTCGCC AGCCCAGATGCTGTCACCACCATCACCAGCTCCAAGCTCCACTGTATCATGCCTCATGTGAAACAGACATTTCTG AGACTGAAGGGAGCAGATAAGGTGGCCGAGCTGGTGCACATCCTCAAGCATCGTGACAGAGCAGAAAGGACTGGT AAAATCCAACACCTAAGGTTGCAGGGGCAAATGCCAGCCTTGATGAGGGTAGGAATCTTCCAGTCCTTCCAGAAG AGCTCCCGAGACATACTTCTCTGCACAGACATAGCCTCTCGGGGCCTGGACAGCACTGGTGTGGAGCTGGTTGTC AATTATGATTTCCCCCCAACGCTGCAAGATTACATCCACAGAGCAGGGAGAGTGGGCCGTGTGGGGAGCGAGGTG CCAGGCACCGTCATCAGTTTTGTGACCCATCCCTGGGATGTGAGCCTGGTTCAGAAGATTGAGCTGGCGGCTCGC CGAAGGAGAGTCTTCCAGGACTAGCATCCTCGGTGAAAGAGCCTTTGCCCCAAGCAACCTGATTTTGACAAATC TGATTAAAATGTGATGCTAGAACAGGGATCTTTCCCAGTATCTTGAGTGGGTGACCACACTTGTCAGTGGGAGGC TCTGGGCTGCCCTGTCGGCTCCTTGAGGGCGGGATGAACTGCTTTGTGACTTGGAAAGGTACGCTGCCCAGC ATTGGAGAAGAAGCTGCTGAGCATGGCTTTCTGTAGTCTTTAGCAAGACACAAGTGGATTTTGACTTTGTATCAT GTCATGATTTCTAACAATAAATGATGTTTTTTATGTGC

TTACTCTGTACAAAGCCAGAACACATATATCAAAGTAATCCTGAAGTATCAGAACAAAATAATAGGCTGTAACAG AGGAGGAAATGATTTTGAATAGCCTCTCTCTGTGTTACCATAATAAGCTAATCCTGGCCCCAATGGTTCGGGTAG GGACTCTTCCAATGAGGCTGCTGGCCCTGGATTATGGAGCGGACATTGTTTACTGTGAGGAGCTGATCGACCTCA AGATGATTCAGTGCAAGAGAGTTGTTAATGAGGTGCTCAGCACAGTGGACTTTGTCGCCCCCTGATGATCGAGTTG CTGTGGCCAGGCTTGTAGAAAATGATGTGGCTGGTATTGATGTCAACATGGGCTGTCCAAAACAATATTCCACCA AGGGAGGAATGGGAGCTGCCCTGCTGTCAGACCCTGACAAGATTGAGAAGATCCTCAGCACTCTTGTTAAAGGGA CACGCAGACCTGTGACCTGCAAGATTCGCATCCTGCCATCGCTAGAAGATACCCTGAGCCTTGTGAAGCGGATAG AGAGGACTGGCATTGCTGCCATCGCAGTTCATGGGAGGAAGCGGAGGAGCGACCTCAGCATCCTGTCAGCTGTG AAGTCATCAAAGCCATTGCTGATACCCTCTCCATTCCTGTCATAGCCAACGGAGGATCTCATGACCACATCCAAC AGTATTCGGACATAGAGGACTTTCGACAAGCCACGGCAGCCTCTTCCGTGATGGTGGCCCGAGCAGCCATGTGGA ACCCATCTATCTTCCTCAAGGAGGGTCTGCGGCCCCTGGAGGAGGTCATGCAGAAATACATCAGATACGCGGTGC AGTATGACAACCACTACACCAACACCAAGTACTGCTTGTGCCAGATGCTACGAGAACAGCTGGAGTCGCCCCAGG GAAGGTTGCTCCATGCTGCCCAGTCTTCCCGGGAAATTTGTGAGGCCTTTGGCCTTGGTGCCTTCTATGAGGAGA CCACACAGGAGCTGGATGCCCAGCAGGCCAGGCTCTCAGCCAAGACTTCAGAGCAGACAGGGGAGCCAGCTGAAG ATACCTCTGGTGTCATTAAGATGGCTGTCAAGTTTGACCGGAGAGCATACCCAGCCCAGATCACCCCTAAGATGT GCCTACTAGAGTGGTGCCGGAGGGAGAGTTGGCACAGCCTGTGTATGAAACGGTTCAACGCCCTCTAGATCGCC TGTTCTCCTCTATTGTCACCGTTGCTGAACAAAAGTATCAGTCTACCTTGTGGGACAAGTCCAAGAAACTGGCGG AGCAGGCTGCAGCCATCGTCTGTCTGCGGAGCCAGGGCCTCCCTGAGGGTCGGCTGGGTGAGGAGAGCCCTTCCT TGCACAAGCGAAAGAGGGAGGCTCCTGACCAAGACCCTGGGGGCCCCAGAGCTCAGGAGCTAGCACAACCTGGGG ATCTGTGCAAGAAGCCCTTTGTGGCCTTGGGAAGTGGTGAAGAAAGCCCCCTGGAAGGCTGG**TGA**CTACTCTTCC TGCCTTAGTCACCCCTCCATGGGCCTGGTGCTAAGGTGGCTGTGGATGCCACAGCATGAACCAGATGCCGTTGAA CAGTTTGCTGGTCTTGCCTGGCAGAAGTTAGATGTCCTGGCAGGGGCCATCAGCCTAGAGCATGGACCAGGGGCC GCCCAGGGGTGGATCCTGGCCCCTTTGGTGGATCTGAGTGACAGGGTCAAGTTCTCTTTGAAAACAGGAGCTTTT

WO 2004/030615 PCT/US2003/028547

4966/6881 FIGURE 4585

MILNSLSLCYHNKLILAPMVRVGTLPMRLLALDYGADIVYCEELIDLKMIQCKRVVNEVLSTVDFVAPDDRVVFR
TCEREQNRVVFQMGTSDAERALAVARLVENDVAGIDVNMGCPKQYSTKGGMGAALLSDPDKIEKILSTLVKGTRR
PVTCKIRILPSLEDTLSLVKRIERTGIAAIAVHGRKREERPQHPVSCEVIKAIADTLSIPVIANGGSHDHIQQYS
DIEDFRQATAASSVMVARAAMWNPSIFLKEGLRPLEEVMQKYIRYAVQYDNHYTNTKYCLCQMLREQLESPQGRL
LHAAQSSREICEAFGLGAFYEETTQELDAQQARLSAKTSEQTGEPAEDTSGVIKMAVKFDRRAYPAQITPKMCLL
EWCRREKLAQPVYETVQRPLDRLFSSIVTVAEQKYQSTLWDKSKKLAEQAAAIVCLRSQGLPEGRLGEESPSLHK
RKREAPDQDPGGPRAQELAQPGDLCKKPFVALGSGEESPLEGW

4967/6881 FIGURE 4586A

TGTGGCGCCCACGACGACTCGACTTCAAACTCGTCTTTGGCGAGGACGGGGCGCCGCCGCCCCCCGGGC TCGCGGCCTGCAGATCTTGAGCCAGATGATTGTGCATCCATTTACATCTTTAATGTAGATCCACCTCCATCTACT TTAACCACACCACTTTGCTTACCACATCATGGATTACCGTCTCACTCTTCTGTTTTGTCACCATCGTTTCAGCTC CAAAGTCACAAAAACTATGAAGGAACTTGTGAGATTCCTGAATCTAAATATAGCCCATTAGGTGGTCCCAAACCC TTTGAGTGCCCAAGTATTCAAATTACATCTATCTCTCCTAACTGTCATCAAGAATTAGATGCACATGAAGATGAC CTACAGATAAATGACCCAGAACGGGAATTTTTGGAAAGGCCTTCTAGAGATCATCTCTATCTTCCTCTTGAGCCA TCCTACCGGGAGTCTTCTCTTAGTCCTAGTCCTGCCAGCAGCATCTCTTCTAGGAGTTGGTTCTCTGATGCATCT GGATCCCCTCTGACTTCTCCTGGTGGCTCTCCAGGGGGCTGCCCTGGAGAAAACTTGGCATCAACAGTATGGA CTTGGACACTCATTATCACCCAGGCAATCTCCTTGCCACTCTCCTAGATCCAGTGTCACTGATGAGAATTGGCTG AGCCCCAGGCCAGCCTCAGGACCCTCATCAAGGCCCACATCCCCCTGTGGGAAACGGAGGCACTCCAGTGCTGAA GTTTGTTATGCTGGGTCCCTTTCACCCCATCACTCACCTGTTCCTTCACCTGGTCACTCCCCCAGGGGAAGTGTG ACAGAAGATACGTGGCTCAATGCTTCTGTCCATGGTGGGTCAGGCCTTGGCCCTGCAGTTTTTCCATTTCAGTAC TGTGTAGAGACTGACATCCCTCTCAAAACAAGGAAAACTTCTGAAGATCAAGCTGCCATACTACCAGGAAAATTA GAGCTGTGTTCAGATGACCAAGGGAGTTTATCACCAGCCCGGGAGACTTCAATAGATGATGGCCTTGGATCTCAG $\tt CCTGGCCACACCCCTATATTTCGCACATCTTCATTACCTCCACTAGACTGGCCTTTACCAGCTCATTTTGGACAA$ TGTGAACTGAAAATAGAAGTGCAACCTAAAACTCATCGAGCCCATTATGAAACTGAAGGTAGCCGAGGGGCA GTAAAAGCATCTACTGGGGGACATCCTGTTGTGAAGCTCCTGGGCTATAACGAAAAGCCAATAAATCTACAAATG TTTATTGGGACAGCAGATGATCGATATTTACGACCTCATGCATTTTACCAGGTGCATCGAATCACTGGGAAGACA GTCGCTACTGCAAGCCAAGAGATAATAATTGCCAGTACAAAAGTTCTGGAAATTCCACTTCTTCCTGAAAATAAT ATGTCAGCCAGTATTGATTGTGCAGGTATTTTGAAACTCCGCAATTCAGATATAGAACTTCGAAAAGGAGAAACT GATATTGGCAGAAAGAATACTAGAGTACGACTTGTGTTTCGTGTACACATCCCACAGCCCAGTGGAAAAGTCCTT TCTCTGCAGATAGCCTCTATACCCGTTGAGTGCTCCCAGCGGTCTGCTCAAGAACTTCCTCATATTGAGAAGTAC ${\tt AGTATCAACAGTTGTTCTGTAAATGGAGGTCATGAAATGGTTGTGACTGGATCTAATTTTCTTCCAGAATCCAAA}$ ATCATTTTTCTTGAAAAAGGACAAGATGGACGACCTCAGTGGGAGGTAGAAGGGAAGATAATCAGGGAAAAAATGT ${\tt CAAGGGGCTCACATTGTCCTTGAAGTTCCTCCATATCATAACCCAGCAGTTACAGCTGCAGTGCAGGTGCACTTT}$ TATCTTTGCAATGGCAAGAGGAAAAAAAGCCAGTCTCAACGTTTTACTTATACACCAGTTTTGATGAAGCAAGAA ${\tt CACAGAGAAGAGATTGATTTGTCTTCAGTTCCATCTTTGCCTGTGCCTCATCCTGCTCAGACCCAGAGGCCTTCC}$ TCTGATTCAGGGTGTTCACATGACAGTGTACTGTCAGGACAGAGAAGTTTGATTTGCTCCATCCCACAAACATAT GCATCCATGGTGACCTCATCCCATCTGCCACAGTTGCAGTGTAGAGATGAGAGTGTTAGTAAAGAACAGCATATG ATTCCTTCTCCAATTGTACACCAGCCTTTTCAAGTCACACCACACACCTCTGTGGGGTCTTCCTATCAGCCTATG CANACTAATGTTGTGTACAATGGACCAACTTGTCTTCCTATTAATGCTGCCTCTAGTCAAGAATTTGATTCAGTT TTGTTTCAGCAGGATGCAACTCTTTCTGGTTTAGTGAATCTTGGCTGTCAACCACTGTCATCCATACCATTTCAT TCTTCAAATTCAGGCTCAACAGGACATCTCTTAGCCCATACACCTCATTCTGTGCATACCCTGCCTCATCTGCAA CCTTCGTCTCAGTTACAACCTATTACATATGGTCCTTCACATTCAGGGTCTGCTACAACAGCTTCCCCAGCAGCT TCTCATCCCTTGGCTAGTTCACCGCTTTCTGGGCCACCATCTCCTCAGCTTCAGCCTATGCCTTACCAATCTCCT AGCTCAGGAACTGCCTCATCACCGTCTCCAGCCACCAGAATGCATTCTGGACAGCACTCAACTCAAGCACAAAGGT ACGGGCCAGGGGGGTCTTTCTGCACCTTCATCCTTAATATGTCACAGTTTGTGTGATCCAGCGTCATTTCCACCT GATGGGGCAACTGTGAGCATTAAACCTGAACCAGAAGATCGAGAGCCTAACTTTGCAACCATTGGTCTGCAGGAC ATCACTTTAGATGATGACCAATTTATATCTGACTTGGAACACCAGCCATCAGGTTCAGCAGAGAAATGGCCTAAC CACAGTGTGCTCATGTCCAGCTCCTTTCTGGAGAATCTAGAGGTGAACGAGATAATTGGGAGAGACATGTCCC AGATTTCTGTTTCCCAAGGAGCAGGGTGAGCAGGCAGGCTCCCCTCCCGAGTCCTGAGTCCCTGGATTTAGGAA GATCTGATGGGCTCTAACAGTGCTTACTGCAGCCTTGTGTCCACCACCAACTTCTCAGCATGTTTCTCTCCTTGG

4968/6881 FIGURE 4586B

ACCTTGGGTTTCCAACTCTGCAGCCTTCAGGTCTGGGGCCAGGAGTGGGACCCACCATTTGTGGGGAAAGTAGCA
TTCCTCCACCTCAGGCCTTGGGTAGATTTGGCAAAAGAACAGGAGCAGCATAGGCTGTTTGAGCTTTGGGGAAAT
GAACTTTGCTTTTTATATTTAACTAGGATACTTTTATATGATGGGTGCTTTTGAGTGGAATGCAGCAGGCTCTCT
TGTTTCCGAGGTGCTGCTTTTGCAGGTGACCTGGTTACTTAGCTAGGATTGGTGATTTGTACTGCTTTATGGTCA
TTTGAAGGGCCCTTTAGTTTTTATGATAATTTTTAAAATAGGAACTTTTGATAAGACCTTCTAGAAGCC

MTTANCGAHDELDFKLVFGEDGAPAPPPPGSRPADLEPDDCASIYIFNVDPPPSTLTTPLCLPHHGLPSHSSVLS PSFQLQSHKNYEGTCEIPESKYSPLGGPKPFECPSIQITSISPNCHQELDAHEDDLQINDPEREFLERPSRDHLY LPLEPSYRESSLSPSPASSISSRSWFSDASSCESLSHIYDDVDSELNEAAARFTLGSPLTSPGGSPGGCPGEETW HQQYGLGHSLSPRQSPCHSPRSSVTDENWLSPRPASGPSSRPTSPCGKRRHSSAEVCYAGSLSPHHSPVPSPGHS PRGSVTEDTWLNASVHGGSGLGPAVFPFQYCVETDIPLKTRKTSEDQAAILPGKLELCSDDQGSLSPARETSIDD GLGSQYPLKKDSCGDQFLSVPSPFTWSKPKPGHTPIFRTSSLPPLDWPLPAHFGQCELKIEVQPKTHHRAHYETE GSRGAVKASTGGHPVVKLLGYNEKPINLQMFIGTADDRYLRPHAFYQVHRITGKTVATASQEIIIASTKVLEIPL LPENNMSASIDCAGILKLRNSDIELRKGETDIGRKNTRVRLVFRVHIPQPSGKVLSLQIASIPVECSQRSAQELP HIEKYSINSCSVNGGHEMVVTGSNFLPESKIIFLEKGQDGRPQWEVEGKIIREKCQGAHIVLEVPPYHNPAVTAA VQVHFYLCNGKRKKSQSQRFTYTPVLMKQEHREEIDLSSVPSLPVPHPAQTQRPSSDSGCSHDSVLSGQRSLICS IPQTYASMVTSSHLPQLQCRDESVSKEQHMIPSPIVHQPFQVTPTPPVGSSYQPMQTNVVYNGPTCLPINAASSQ EFDSVLFQQDATLSGLVNLGCQPLSSIPFHSSNSGSTGHLLAHTPHSVHTLPHLQSMGYHCSNTGQRSLSSPVAD QITGQPSSQLQPITYGPSHSGSATTASPAASHPLASSPLSGPPSPQLQPMPYQSPSSGTASSPSPATRMHSGQHS TQAQSTGQGGLSAPSSLICHSLCDPASFPPDGATVSIKPEPEDREPNFATIGLQDITLDDDQFISDLEHQPSGSA EKWPNHSVLSCPAPFWRI

4970/6881 FIGURE 4588A

GGCACGAGGGCACCATTGGATGCTTACTTTCAGGTGAGCAGGACCCAGCCTGACTTGCCAGCTACCACTTATGAT TCAGAGACTAGGAATCCTGTATCTGAAGAGTTGCAGGTGTCTAGTAGTTCTGATTCTGACAGTGACAGCTCTGCA GAGTATGGAGGGGTTGTTGACCAGGCAGAGGAATCTGGAGCTGTCATTTTAGAAGAGCAACTAGCAGGTGTCTCA GCAGAGCAAGAAGTTACATGTATCGATGGAGGCAAGACCCTCCCCAAACAGCCATCTCCCCAGAAGTCTGAGCCT $\verb|CTGCTACCTTCTGCTTCTATGGATGAGGAAGAAGGGGACACTTGTACAATATGTCTGGAACAGTGGACCAATGCT|\\$ GGGGACCACCGGCTCTCAGCATTACGCTGTGGGCATCTCTTTTGGGTATAGGTGCATTTCCACGTGGCTTAAAGGA CAAGTACGAAAATGTCCCCAGTGCAACAAGAAAGCCAGGCACAGTGACATTGTCGTCCTTTATGCCCGAACCCTG ${\tt AGAGCTTTGGACACTAGTGAACAGGAGCGC} \underline{{\tt ATG}}{\tt AAAAGTTCCCTACTGAAGGAACAGATGCTAAGGAAACAGGCC}$ GAGTTAGAATCAGCACAGTGCCGACTCCAACTGCAGGTCCTCACTGATAAGTGCACTAGGCTTCAAAGGCGTGTT CAGGACTTGCAAAAACTTACGTCACATCAAAGTCAGAATTTACAGCAACCCAGGGGCTCCCAAGCATGGGTCCTG AGCTGCTCACCCTCCAGCCAGGGCCAGCACAAGCACAAGTACCACTTCCAAAAAGACCTTCACAGTATCTCAGGCA GGAAACTGCCGGATCATGGCATACTGTGATGCTCTGAGCTGCCTGGTGATATCACAGCCTTCTCCTCAGGCCTCT AAACAGATCCGTGGACTGGCGTTTAGCAGTTACCTCAGAGGCTTGCTACTCTCTGCTTCCCTAGACAACACTATT AAACTGACCAGCCTGGAGACAAATACCGTGGTCCAGACTTATAATGCTGGACGTCCTGTCTGGAGCTGTTGCTGG TGTCTTGATGAGGCTAACTACATCTATGCTGGACTGGCCAATGGTTCAATTCTGGTATATGACGTGCGAAACAC AGCAGTCATGTGCAGGAGTTAGTAGCTCAGAAAGCCAGATGCCCACTGGTCTCCCTGTCATACATGCCCAGAGCT GCCTCAGCTGCATTTCCATATGGTGGGGTGCTGGCTGGAACCTTGGAGGATGCTTCATTCTGGGAACAGAAAATG CGGCACTGTCTTGTGACCTACAGGCCTGATAAAAATCACACCACCATACGAAGTGTGCTGATGGAAATGTCCTAC CTATTGACCAAAAATGCCATTTTCCAAAGCCCAGAGAATGATGGCAACATCCTGGTGTACTGGGGATGAAGCA GCAAATTCTGCCCTGCTGTGGGATGCTGCCAGTGGCTCGTTGCTCCAGGACCTACAGACCGATCAGCCTGTTTTG GACATCTGCCCATTTGAGGTGAACCGTAACAGCTACTTGGCTACCTTAACAGAGAAGATGGTCCACATCTATAAG GACCCTAGGTCACTGAGACACTACAGATTGTGTATCTGTTATGTCCACTAAAAGAGTAATTGATGGGTACTTTAT ${\tt CTACATTATCCATTTCTTGGGTTTAAAGCCTTCATTAACCATTATTGTATGTTGGAAATTCTTATTTCTTTATT}$ TTCTGTGTGACTTTCTGGACCTTAGAGAGTGTCCTCTCATCATCTAGGATGTGAGTGGGCATCAAGCATTTTCTG GGGAATATGACATCCCATCTGAGTTGTCCTGTCACTTAAGTATCCTTGAAGGGACTAACCATCGTCTTGGTACTG ATTTGATGCAACGTAGATGTAAAAGAGTATTATTCAGTTGAACACAAGAGGGCACTGTAGAACCTTGTGTCCGGT TTATTTCTGACCTTGAAGGCTGACAATCTTTTAGTAACTTGTCTCATCTCCACACAAGTGTGTGATAGCACACCT GGGTGTGCTTTGTGGCAATAACACTTGTGTTCCAGGTGTGAAGTGCTGGGACATTGGCAGGCCCAGTGATGGAAG CAGCTAGTGAACGATTCCCTTTGCTAATGCCTAGTGCATTAAGTTCATTGCTTTGCGAAAGGTAAGGAAAGGC CAGTTGTTTGAGCGGTGGGGAAGATTTTGTTTTTTCTAGCCAGCTTAGGATCTCAGGATTGGTTTTATCCAAGCT AGTGCTTTGAAGAACACTATCTCTTGCCAGGAAAAGATGAGTGATAGGTCAAAGCTTTTACTTGAGTCTCCCCTA GTGTCAGAGATCAGGAGAAAAGACATAAGAGAATTTACAAAAGCTATTCAGACTGCTATTGAAAACATGAGAAGA ACTTGTCTCCCATTTTGAGAGTTCCTATCTAAATAAAGCCAATTCCTCAGACTGAGGGGCTGTTCTTAAGTGTTC TTTATACATTCCAGTTATCCAGTTAAAGCCTTCCCCATGTGAAGCTGATGTTTGATTCCAGTTTCCTTTGATTTG CCTCCCTAACCTTTTCTAGGGCTCAGTTTGTATTTCTTTGCCTCAGACTACTTTGCCAACCCACTTCCAC **AACAGAATATGCTTCAAGATGTGGGCAGGTCAGTGTCCTGTTCATGGGAGAAAATGGCTTAACAGTCTGATTTTC** TCAAATGATTATTGAAGAGTTGTTATCGTTTTTATTATAAAACACTTCTGACCTGTCAATTCAAGAGCTGTTTCT AGGATCTTTCTCCCGGCAAGGGGTTGTTGCACTAGATTTCCCCAGAGTTCCAAGTTCTAGTTGTGCCTTTTAAT GACCCTTTAATATTTTAGGACATAATTTTTTCCTTTTTTAAATTTTTTTGTAGAAATAGATGTTTCACTACGTTG TCCAGGCTGGTCTTGGACTCCTGGCCTCAAGCAATCCTCCCACCTCAGCCTCCTAAAGTGCCAAAATTATAGGCG TTCTCAGAGGAGATACTCCTTTTGATATGTTAATGATTAAGAGTGGTTGCCCAGGCCTAGTTTCAGTGGCAGAAT AGGATTGGAATTAAAAAGCAGAACTCATCTGGCTTCAGCAGATTGCCACCAAGAGGATACAGGTGGTCAGGTCCT

4971/6881 FIGURE 4588B

4972/6881 FIGURE 4589

MKSSLLKEQMLRKQAELESAQCRLQLQVLTDKCTRLQRRVQDLQKLTSHQSQNLQQPRGSQAWVLSCSPSSQGQH KHKYHFQKTFTVSQAGNCRIMAYCDALSCLVISQPSPQASFLPGFGVKMLSTANMKSSQYIPMHGKQIRGLAFSS YLRGLLLSASLDNTIKLTSLETNTVVQTYNAGRPVWSCCWCLDEANYIYAGLANGSILVYDVRNTSSHVQELVAQ KARCPLVSLSYMPRAASAAFPYGGVLAGTLEDASFWEQKMDFSHWPHVLPLEPGGCIDFQTENSSRHCLVTYRPD KNHTTIRSVLMEMSYRLDDTGNPICSCQPVHTFFGGPTCKLLTKNAIFQSPENDGNILVCTGDEAANSALLWDAA SGSLLQDLQTDQPVLDICPFEVNRNSYLATLTEKMVHIYKWE

ATGAACTTCACCACTCGCTCCACCTTCTCCACCAACTACCGGTCCCTGGGCTTTGTCCAGGCGCCCAGCTACAGT ${\tt TCCGCCAGCTTCTGGGGGCCATGGGGGTCTGGGGGGCCTGTCCGCGGGGATGGCTGGGGGTCTTGCAAGAATGGGA}$ GGCATCCAGAACAAGAAGGAGACCATGCAAAGCCTGAAGTACTGCCTGACCTCGAACACACGTGAGGAAC CTGGAGATGGAGAACTGGAAGCTAGAGAGCAAAATCCGGGAGCACCTGGAGAAGAAGGGACCCCAGTTCAGAGAC TGGAGCCGTTACTTCCAGACCATCAAGGACCTGAGGGCTCAGATCTTCGCAAATACTGTGGACAATGCCTGCATC GTTCTGCAGATTGACAGTGCCCGTCTTGCAGCTGATGATTTTAGATCTGTGGAGAATGACATCCATGGGCTCTGC AAGGTCATTGATGACACCAGTGTCACTTGGCTGCAGCTGGAGACAGAGTCAAGGCTCGCAAGGAAGAGCTGCTC TTCATGAAGAAGAACCACGGAGAGGAAGTAAAAGGCCTACAAGCCCAGATTGCCAGCTCTGGGTTGACCTTGGAG GACCTCGCCAAGATCATGGCAGACATCTGGGCCCAATATGACAAGCTGGCTCGGAAGAACAGAGAGGAGCTGGAC AAGTACTGGTCTCAGCAGATTGAGGAGAGCACCACGGTGGTCACCACGCAGTCCGTCAAGGTTGGAGCTGCTGAG ACGACACTCACGGAGCTGAGATATACAGTCCAGTCCTTGGAGACTGACCTGGACTCAATGAGAAATCTGAAGGCC AGCTTGGAGAACAGCCTGAGGGAGGTGGAGGCCCGCTACACCCTGCAGATGGAGCAGCTCAACGGGATCCTGCTT TACCTGGAGTCAGAGCTGGCACAGACCCGGGCAGAGGGGTCCTTCTTACTGATGTGTTGCTCTTCATGGCTC GTGAAAACTATTAGAGTCATCCAAGATTCTAAGTTCCTGACTCAGAATCTTACTGTTGTGAACCTTTACACCCAG GTTTGGAGACAGAAAGGAGCACCGCCAAGTGAGGCAGAGCAGTCTCAGAAACATAGGAAAATGGTGGGAAGAGAG ATCAGCAACGTTAACTGGGTGTCAAGAAAACATACCGAGATTGAAGCCATCCACTTCTGCAGGAACACCGAAAAG AAAGGTACAACGCTTGGGGAAAGACTGGATTTCATTAGGGACAGTGACAATACCTGTTTGACATAG

4974/6881 FIGURE 4591

MNFTTRSTFSTNYRSLGFVQAPSYSARPVSSMASVYAGTRGSGSWISMSHSASFWGGMGSGGLSAGMAGGLARMG GIQNKKETMQSLKYCLTSYLNTVRNLEMENWKLESKIREHLEKKGPQFRDWSRYFQTIKDLRAQIFANTVDNACI VLQIDSARLAADDFRSVENDIHGLCKVIDDTSVTWLQLETEIKARKEELLFMKKNHGEEVKGLQAQIASSGLTLE DLAKIMADIWAQYDKLARKNREELDKYWSQQIEESTTVVTTQSVKVGAAETTLTELRYTVQSLETDLDSMRNLKA SLENSLREVEARYTLQMEQLNGILLYLESELAQTRAEGSFLLMCCSSSWLVKTIRVIQDSKFLTQNLTVVNLYTQ VWRQKGAPPSEAEQSQKHRKMVGREISNVNWVSRKHTEIEAIHFCRNTEKKGTTLGERLDFIRDSDNTCLT

4975/6881 FIGURE 4592A

ATAATGGCCGCTTTCAAGGTGTGGATTTTGGCTCCTTGAGCCTGTCTGAGCGAGGGGTGGCAGCGCCGCCCCC AGAATCCGGGACAGAAGGGTCCCAAGAGTCGCGCTTGGTGAGAGAAATCCCAGATCCTGTGATGGGGGACACCAG TGAGGATGCCTCGATCCATCGATTGGAAGGCACTGATCTGGACTGTCAGGTTGGTGGTCTTATTTGCAAGTCCAA AAGTGCGGCCAGCGAGCATGTCTTCAAGGCTCCTGCTCCCCGCCCTTCATTACTGGGACTGGACTTGCTGGC TTCCCTGAAACGGAGAGAGAGAGAGAAGGACGATGGGGAGGACAAGAAGAAGTCCAAAGTCTCCTACAA GGACTGGGAAGAGACCAAGGATGACCAGAAGGATGCTGAGGAAGAGGGCGGTGACCAGGCTGGCCAAAATATCCG GAAAGACAGACATTATCGGTCTGCTCGGGTAGAGACTCCCATCCCGGGTGGTGTGAGCGAAGAGTTTTGGGA ACGCAGTCGGCAGAGAGAGCGGGAGCGGAGGGAACATGGTGTCTATGCCTCGTCCAAAGAAGAAAAGGATTGGAA GAAGGAGAAATCGCGGGATCGAGACTATGACCGCAAGAGGGGACAGAGATGAGCGGGATAGAAGTAGGCACAGCAG CAGATCAGAGCGAGATGGAGGGTCAGAGCGTAGCAGCAGAAGAAATGAACCCGAGAGCCCACGACATCGACCTAA AGATGCAGCCACCCCTTCAAGGTCTACCTGGGAGGAAGAGGACAGTGGCTATGGCTCCTCAAGGCGCTCACAGTG GGAATCGCCCTCCCCGACGCCTTCCTATCGGGATTCTGAGCGGAGCCATCGGCTGTCCACTCGAGATCGAGACAG GTCTGTGAGGGGCAAGTACTCGGATGACACCCCTCTGCCAACTCCCTACAAATATAACGAGTGGGCCGATGA ${\tt CAGAAGACACTTGGGGTCCACCCGGGTCTGTCCAGGGGGCGAAGAAGACGTGAGGAGGGGGGAAGAAGAATTTC}$ ATTTGACACGGAGGAGGAGCAGCAGTGGGAAGATGACCAGAGGCAAGCCGATCGGGATTGGTACATGATGGA $\tt CGAGGGCTATGACGAGTTCCACAACCCGCTGGCCTACTCCTCCGAGGACTACGTGAGGAGGCGGGAGCACCT$ GCATAAACAGAAGCAGAAGCGCATTTCAGCTCAGCGGAGACAGATCAATGAGGATAACGAGCGCTGGGAGACAAA CCGCATGCTCACCAGTGGGGTGGTCCATCGGCTGGAGGTGGATGAGGACTTTGAAGAGGACAACGCCGGCCAAGGT GCATCTGATGGTGCACAATCTGGTGCCTCCCTTTCTGGATGGCCGCATTGTCTTCACCAAGCAGCCGGAGCCGGT GATTCCAGTGAAGGATGCCACTTCTGACCTGGCCATCATTGCTCGGAAAGGCAGCCAGACAGTGCGGAAGCACAG GGAGCAGAAGGAGCGCAAGAAGGCTCAGCACAAACACTGGGAACTGGCGGGGACCAAACTGGGAGATATAATGGG CGTCAAGAAGGAGGAGAGACCAGATAAAGCTGTGACGGAGGATGGGAAGGTGGACTACAGGACAGAGCAGAAGTT TGCAGATCACATGAAGAGAAAGAGCGAAGCCAGCAGTGAATTTGCAAAGAAGAAGTCCATCCTGGAGCAGAGGCA GTACCTGCCCATCTTTGCAGTGCAGCAGGAGCTGCTCACTATTATCAGAGACAACAGCATCGTGATCGTGGTTGG GGAGACGGGGAGTGGTAAGACCACTCAGCTGACGCAGTACCTGCATGAAGATGGTTACACGGACTATGGGATGAT TGGGTGTACCCAGCCCCGGCGTGTAGCTGCCATGTCAGTGGCCAAGAGAGTCAGTGAAGAGATGGGGGGGAAACCT TGGCGAGGAGGTGGCTATGCCATCCGCTTTGAAGACTGCACTTCAGAGAACACCTTGATCAAATACATGACTGA CGGGATCCTGCTCCGAGAGTCCCTCCGGGAAGCCGACCTGGATCACTACAGTGCCATCATCATGGACGAGGCCCA CGAGCGCTCCCTCAACACTGACGTGCTCTTTGGGCTGCTCCGGGAGGTAGTGGCTCGGCGCTCAGACCTGAAGCT CATCGTCACATCAGCCACGATGGATGCGGAGAAGTTTGCTGCCTTTTTTTGGGAATGTCCCCATCTTCCACATCCC TGGCCGTACCTTCCCTGTTGACATCCTCTTCAGCAAGACCCCACAGGAGGATTACGTGGAGGCTGCAGTGAAGCA GTCCTTGCAGGTGCACCTGTCGGGGGCCCCTGGAGACATCCTTATCTTCATGCCTGGCCAAGAGGACATTGAGGT GACCTCAGACCAGATTGTGGAGCATCTGGAGGAACTGGAGAACGCCCCTGCCCTGGCTGTGCTGCCCATCTACTC TCAGCTGCCTTCTGACCTCCAGGCCAAAATCTTCCAGAAGGCTCCAGATGGCGTTCGGAAGTGCATCGTTGCCAC CTTCAACCCCAGGATTGGCATGGATGCTCTGCAGATCTATCCCATTAGCCAGGCCAATGCCAACCAGCGGTCAGG GCGAGCCGGCAGGACCGGCCCAGGTCAGTGTTTCAGGCTCTACACCCAGAGCGCCTACAAGAATGAGCTCCTGAC CACCACAGTGCCCGAGATCCAGAGGACTAACCTGGCCAACGTGGTGCTGCTCCAAGTCCCTCGGGGTGCAGGA CCTGCTGCAGTTCCACTTCATGGACCCGCCCCGGAGGACAACATGCTCAACTCTATGTATCAGCTCTGGATCCT CGGGGCCTGGACAACACAGGTGGTCTGACCTCTACCGGGCGGCTGATGGTGGAGTTCCCGCTGGACCCTGCCCT GTCCAAGATGCTCATCGTGTCCTGTGACATGGGCTGCAGCTCCGAGATCCTGCTCATCGTTTCCATGCTCTCGGT CCCAGCCATCTTCTACAGGCCCAAGGGTCGAGAGGGGGGAGAGTGATCAAATCCGGGAGAAGTTCGCTGTTCCTGA GAGCGATCATTTGACCTACCTGAATGTTTACCTGCAGTGGAAGAACAATAATTACTCCACCATCTGGTGTAACGA TCATTCATCCATGCTAAGGCCATGCGGAAGGTCCGGGAGGTGCGAGCTCAACTCAAGGACATCATGGTGCAGCA GCGGATGAGCCTGGCCTCGTGTGGCACTGACTGGGACATCGTCAGGAAGTGCATCTGTGCTGCCTATTTCCACCA AGCAGCCAAGCTCAAGGGAATCGGGGAGTACGTGAACATCCGCACAGGGATGCCCTGCCACTTGCACCCCACCAG CTCCCTTTTTGGAATGGCCTACACCCCAGATTACATAGTGTATCACGAGTTGGTCATGACCACCAAGGAGTATAT GCAGTGTGTGACCGCTGTGGACGGGGGTGGCTGGCGGAGCTGGCCCCATGTTCTATAGCGTGAAACAGGCGGG

4976/6881 FIGURE 4592B

MGDTSEDASIHRLEGTDLDCQVGGLICKSKSAASEQHVFKAPAPRPSLLGLDLLASLKRREREEKDDGEDKKKSK VSSYKDWEESKDDQKDAEEEGGDQAGQNIRKDRHYRSARVETPSHPGGVSEEFWERSRQRERERREHGVYASSKE EKDWKKEKSRDRDYDRKRDRDERDRSRHSSRSERDGGSERSSRRNEPESPRHRPKDAATPSRSTWEEEDSGYGSS RRSQWESPSPTPSYRDSERSHRLSTRDRDRSVRGKYSDDTPLPTPSYKYNEWADDRRHLGSTPRLSRGRGRREEG EEGISFDTEEERQQWEDDQRQADRDWYMMDEGYDEFHNPLAYSSEDYVRRREQHLHKQKQKRISAQRRQINEDNE RWETNRMLTSGVVHRLEVDEDFEEDNAAKVHLMVHNLVPPFLDGRIVFTKQPEPVIPVKDATSDLAIIARKGSQT VRKHREQKERKKAQHKHWELAGTKLGDIMGVKKEEEPDKAVTEDGKVDYRTEOKFADHMKRKSEASSEFAKKKSI LEQRQYLPIFAVQQELLTIIRDNSIVIVVGETGSGKTTQLTQYLHEDGYTDYGMIGCTQPRRVAAMSVAKRVSEE MGGNLGEEVGYAIRFEDCTSENTLIKYMTDGILLRESLREADLDHYSAIIMDEAHERSLNTDVLFGLLREVVARR SDLKLIVTSATMDAEKFAAFFGNVPIFHIPGRTFPVDILFSKTPQEDYVEAAVKQSLQVHLSGAPGDILIFMPGQ EDIEVTSDQIVEHLEELENAPALAVLPIYSQLPSDLQAKIFQKAPDGVRKCIVATNIAETSLTVDGIMFVIDSGY CKLKVFNPRIGMDALQIYPISQANANQRSGRAGRTGPGQCFRLYTQSAYKNELLTTTVPEIQRTNLANVVLLLKS LGVQDLLQFHFMDPPPEDNMLNSMYQLWILGALDNTGGLTSTGRLMVEFPLDPALSKMLIVSCDMGCSSEILLIV SMLSVPAIFYRPKGREEESDQIREKFAVPESDHLTYLNVYLQWKNNNYSTIWCNDHFIHAKAMRKVREVRAQLKD IMVOORMSLASCGTDWDIVRKCICAAYFHOAAKLKGIGEYVNIRTGMPCHLHPTSSLFGMGYTPDYIVYHELVMT TKEYMQCVTAVDGEWLAELGPMFYSVKQAGKSRQENRRRAKEEASAMEEEMALAEEQLRARRQEQEKRSPLGSVR STKIYTPGRKEQGEPMTPRRTPARFGL

ATTGGGCTGTTGAGCGGGGCCGACCGACGGCCAGGAGTTTCTTTTCTGCGCTTGTGCGTTTTCTGTTCGGTTTC CTTCCCGCTAGCGGGGCCACGAGGGTTGCTAGGCCAACAGCCCCTGGGTGACTTGGTCTTAGGGTCCTGTCCGGCT TGGGGCTGATGAAAGGAGCTGTCCGCGCCCGGGCTCTTCCGAGAAGTGGTTGCTGACAGCCACAAAGTGAAAGGG AGTGAGGCGGCGTGGACGAGTAAGGAGTGACAGTGAGGATTCACATTTGGGTTATTTCAAG<u>ATG</u>AGCTTCCTACT GCCCAAGCTGACTAGCAAAAAGGAAGTAGACCAGGCGATAAAAAGTACTGCTGAGAAGGTGTTGGTTCTCAGGTT GGCTGCTATATACCTGGTGGATGTGGACCAAACTGCAGTTTATACACAGTATTTTGACATCAGTTATATTCCATC TACTGTCTTTTTCTTCAATGGGCAGCATATGAAAGTGGATTATGGATCTCCAGATCACCTAAGTTTGTGGGAAG CTTCAAAACCAAACAAGACTTCATAGATTTGATTGAAGTAATCTATCGAGGAGCAATGAGGGGGAAGCTTATTGT CCAAAGTCCTATTGATCCCAAGAATATTCCCAAATATGACCTTCTCTATCAAGACATTTAGTACATTAATTGCTG TCAAAGATGAAGAAGAAGCACATCTTGACACAGTACCTGAATCCAGCTGTGCTGTTTTCTGGAGTCCTTTGGA AACATGTGTCCCAGAGGAGAAGAGGTTTGACTTGCGTGTAGAAAACCCGGCCCCTGAGGAAAAGACCCCACTGGT TCTCTGATGACCTGGGATGCCTAACTGTCTACTCCCTGCAAGCCTCAGAGCAGCCAAGTCATTGGTGTTCATTTT CCCCACAGTGATTTTTGTAACTTCTCTTTCTAATGTTTTTCTTTATCCCTTTAATACAGAACCCTCCCAAACATT GGCTAGTACAACTTGATTTCATCATGTTCATTTGATACACAAGTGAACTGGAAAGTCACTTCCCATAGAAGCAAA CGGTTCCTCGACTCATACATCCCTCGTGCTTTCCCATCTCCAGTCTGTATTACTGTAGGTTCTCTCAAATAATT AATTGAGCAGACAAGTTTGTTTTATTTTGGAGCCTTTTTGGCTCTGGCTTTTAAACATTGTCCTGGTTGGCTCAT TTAATTTTTTTTTTTTTTTGAGACCGAGTCACTCTTGTCACCCAGGCTGGAGTGCAGTGGCGCGATCTCGGCTC GCCACCATGCCCAGCTAATTTTTTGTATTTTTATAGAGGCGCAGTTTCACCGTGTTAGCCAAGATGGTCTCGATC TCCTGACCTCGTGATCTGCCCTCCTCAGCCTCCCAGGTGCTGGGATTATAGGCGTGAGCCACCGCGCGCACCCCA TTTAATTATTTTTATGTTATAAAATTTAATATGGAAAGTGAGAATTTGAACCTTCACCATCCACCACTCTATTC AGGTAAAACAATGAATGAGCCACCTTAGCAGGAGCAGATTTTTCCCAGAAGCTGCCTCCTCCTGAGGCAGAA **AATTGGATTACTAAGGCTCAAAACTAAAAGAGATGTCAGCATTGTTGGATAGAAATGTCACCTATATGGGATTTG** CCTGTTTTAATAACTTTGTAAGGAATTCTTGCTCTTCTAGGGGTGCCTGGCGCAACCGTGGGCAAGTTACTGCTC CTCTTTAAACCTCGTGGTGGTTATTGAAACAGATTTATTAGAAGGAGAGGGTAGGTGCAGAGCTGGAGAGCCATG GGTGAGGCAGCTTGTGACCTGCCTAGCAGCCGCTGACCACCTCTCCAACAGAAGCCTAGTCCTGTTCAGAGCAGC TCTTGCTTTTGGCTCATACAGGAGAGGGGAAGGCTGCCAGGCACTGCTTGTATCCCTGCTGATAAGAGGAGGGA GTCACTCCAGGAATAAGACAAAAGGAGAGGAGGAGGCCATCACCTCTGGCCTCTTCCATCGTACACTTCCTGTCT CTGGTTTAATCATGATGCATGGAGCTACAACAGCCATCTTAGGTCCCCGAGGTGCCCAGCATCACGTAAAACATC

MSFLLPKLTSKKEVDQAIKSTAEKVLVLRFGRDEDPVCLQLDDILSKTSSDLSKMAAIYLVDVDQTAVYTQYFDI SYIPSTVFFFNGQHMKVDYGSPDHTKFVGSFKTKQDFIDLIEVIYRGAMRGKLIVQSPIDPKNIPKYDLLYQDI

PCT/US2003/028547

4980/6881 FIGURE 4596

 $\tt CTCTTCCAGAGGCAAGACCAAGATGAGTGCCCTGGGAGCTGTCATTGCCCTCCTGCTCTGGGGACAGCTTT$ TTGCAGTGGACTCAGGCAATGATGTCACGGATATCGCAGATGACGGCTGCCCGAAGCCCCCCGAGATTGCACATG GCTATGTGGAGCACTCGGTTCGCTACCAGTGTAAGAACTACTACAAACTGCGCACAGAAGGAGATGGAGTATACA CCTTAAATGATAAGAAGCAGTGGATAAATAAGGCTGTTGGAGATAAACTTCCTGAATGTGAAGCAGATGACGGCT GCCCGAAGCCCCCGAGATTGCACATGGCTATGTGGAGCACTCGGTTCGCTACCAGTGTAAGAACTACTACAAAC $\tt TTCCTGAATGTGAAGCAGTATGTGGGAAGCCCAAGAATCCGGCAAACCCAGTGCAGCGGATCCTGGGTGGACACC$ ${\tt TGGATGCCAAAGGCAGCTTTCCCTGGCAGGCTAAGATGGTTTCCCACCATAATCTCACCACAGGTGCCACGCTGA}$ TCAATGAACAATGGCTGCTGACCACGGCTAAAAATCTCTTCCTGAACCATTCAGAAAATGCAACAGCGAAAGACA TTGCCCCTACTTTAACACTCTATGTGGGGAAAAAGCAGCTTGTAGAGATTGAGAAGGTTGTTCTACACCCTAACT ACTCCCAGGTAGATATTGGGCTCATCAAACTCAAACAGAAGGTGTCTGTTAATGAGAGAGTGATGCCCATCTGCC TTACTGACCATCTGAAGTATGTCATGCTGCCTGTGGCTGACCAAGACCAATGCATAAGGCATTATGAAGGCAGCA GCATGTCTAAGTACCAAGAAGACACCTGCTATGGCGATGCGGGCAGTGCCTTTGCCGTTCACGACCTGGAGGAGG ACACCTGGTATGCGACTGGGATCTTAAGCTTTGATAAGAGCTGTGCTGTGGCTGAGTATGGTGTATGTGAAGG TGACTTCCATCCAGGACTGGGTTCAGAAGACCATAGCTGAGAACTAATGCAAGGCTGGCCGGAAGCCCTTGCCTG AAAGCAAGATTTCAGCCTGGAAGAGGGCAAAGTGGACGGGAGTGGACAGGAGTGGATGCGATAAGATGTGGTTTG

GGAACCATTGTGGACGTTCCAGTCGGTGAGGAGCTGTTGGGTCGTGAGTTGATGCCCTTGGTAATGCTATTGAT GGAAAGGGTCCAATGGGTTCCAAGACCCATAAAATCATTCCTCGAACTTCAGTGTGGGAACCAATGCCGACTGGC ATTAAGGCTGTGGATAGCTTGGTGCCAATTGGTCGTGGTCAGCATGAGCTCATTATTGGTGACCGAAGGACTGGG AAAACCTCAATTGCTATTGACACAATCATTAACCAGAAACATTTCAATGATAGATCTGAAGAAAAGAAGAAGCTG TACTGTATCTATGTTGCTATTGGTCGAAAGAGATCCACTGTTGCTCAGTTGGTGAAGAGACTTACAGATGCAGAT GCCGTGAAGTACACCACTGTGGTGTCAGCTATGGCCTCAGATGCTGCCCTACTTCAGTACCTGGCTCCTTACTCT GACTGTTCCATGGGAGAGTATTTTAGAGACGATGGCAAATATACTTTGATCATCTATGACGACTTATCCAAACAG GCTGTCGCTTACTGTCAGATGTCTCTGTTGCTCCACCGACCCCCTGGTCGACTATGAAGCAGGCGGCAGGTACC ${\tt ATGAAGCTGGAATTGGCTCAGGATCGTGAGGTTGCTGCTTTTGCCCAGTTTGGTTCTGACCTCAATGCTCCCACT}$ CAACAACTATTGAGTCGCGGTGTGCGTCTAACTGAGTTGCTGAAGCAAGGACAGTATCCTCCCATGGTTACTGAA ${\tt CAACAAGTGGCTGTTATCTGTGCGGGTGGAGAGATATAGAGGACATTCCAAAGGAAGTGCTGACAGACTGCGCCC}$ CACCTTGTGAAGGCCAATAGCACTCAAGGCTGCAAGAACAACGTTAATGTGGTAAATACTCCACGGTCTAACCTG ${\tt AAGAAAACAGCTGACGTGGATGTGAGGCAGATAGGCTTTCACAGGCAGAAGGATGTAAAAATTGTGACAATGGAG}$ AAGAAAAGAGGATTCCTAGCTCATATTTGGAACAAGGAAGTTCAAGATCTCATCCGGGACTATCTGGAAGAAGGA AAGAAGTGGTGGATTGGGCAAAATGTAATGCCATTGAAAAAGCATCAAGACAACAAATACCCAGCAGACGTTGCA GCCAACGGGCCCCCAAAGCCCCTCAGCTGCACCTACCTGTCCAGAAACTTCATTCGGATCTCATCCAAAGGGGAC GGAAATAATTCCCATTTGTACCAGAGACACAAGAAGACAAAAAGAGGAGTTGCAATAGCAAGAGACAAAATGCCC CCAGACTTTCAGGATCATGTGATTCCTGGCCAAGAAATAAAAGCAAAATCATTTTATTCCCCAGTGGATTCGGAT GAAACCGGTGATAAAATCAGGTACAACTCCAAGAGGGAGACACTGGAGAACAGGCATGCTGGGTCTG<u>TAA</u>

MLSVCVSAAVARDLTRKEGGIVKRTGTIVDVPVGEELLGRVVDALGNAIDGKGPMGSKTHKIIPRTSVWEPMPTG
IKAVDSLVPIGRGQHELIIGDRRTGKTSIAIDTIINQKHFNDRSEEKKKLYCIYVAIGRKRSTVAQLVKRLTDAD
AVKYTTVVSAMASDAALLQYLAPYSDCSMGEYFRDDGKYTLIIYDDLSKQAVAYCQMSLLLHRPPWSTMKQAAGT
MKLELAQDREVAAFAQFGSDLNAPTQQLLSRGVRLTELLKQGQYPPMVTEQQVAVICAGGENIEDIPKEVLTDCA
HLVKANSTQGCKNNVNVVNTPRSNLKKTADVDVRQIGFHRQKDVKIVTMEKKRGFLAHIWNKEVQDLIRDYLEEG
KKWWIGQNVMPLKKHQDNKYPADVAANGPPKPLSCTYLSRNFIRISSKGDKCLLKYYFICQTGDFLDGDAHYERN
GNNSHLYQRHKKTKRGVAIARDKMPPDFQDHVIPGQEIKAKSFYSPVDSDETGDKIRYNSKRRHWRTGMLGL

CTGTGGCTGGCCTCCCCGCGCCCAGAGCGAAATTAAGGGCATGCCCCCAGCAGCTGACTCAGTCGGCGTGGCGCT TCCCCCAACGTCTGCCGTGCCCCGCCGGGAAGTAGTCCCCGGCCGCCGACTCCAAAGGAAACCGAGGGAG GGTGCCCCGAGTCAGCGCGTGGGTCCCGGCAGCGGCGATCGCGCAATCCCTGGAAAGGAGGGCGTGGCTAT ATCGGCCCGTGGATCCCTCCGCCCGCGCTTGTTGTGCTGAGGCCGAGGGAGTCGCCATTTTGGATGGTGAACCC TGAAGTCGGTGTCTGCGGTTCACGGCAGGATTCGGTTAGGAGGAACAGCACAGCATGCTGGGCTCTGGATTTA AAGCTGAGCGCTTAAGAGTGAATTTGAGATTAGTCATAAATCGCCTTAAACTATTGGAGAAAAAGAAAACGGAAC TGGCCCAGAAAGCAAGGAAGGAGATTGCTGACTATCTGGCTGCTGGGAAAGATGAACGAGCTCGGATCCGTGTGG AGCACATTATCCGGGAAGACTACCTCGTGGAGGCCATGGAGATCCTGGAGCTGTACTGTGACCTGCTGCTGCTC GGTTTGGCCTTATCCAGTCTATGAAGGAACTAGATTCTGGTCTGGCTGAATCTGTGTCTACATTGATCTGGGCTG CTCCTCGACTCCAGTCAGAAGTGGCTGAGTTGAAAATAGTTGCTGATCAGCTCTGTGCCAAGTATAGCAAGGAAT ATGGCAAGCTATGTAGGACCAACCAGATTGGAACTGTGAATGACAGGCTAATGCACAAGCTGAGTGTGGAAGCCC CACCCAAAATCCTGGTGGAGAGATACCTGATTGAAATTGCAAAGAATTACAACGTACCCTATGAACCTGACTCTG TGGTCATGGCAGAAGCTCCTCCTGGGGTAGAGACAGATCTTATTGATGTTGGATTCACAGATGATGTGAAGAAAG GAGGCCCTGGAAGAGGGGGGGGGGGGGCTTCACAGCACCAGTTGGTGGACCTGATGGAACGGTGCCAATGCCCA TGCCCATGCCCATGCCTATGCCATCTGCAAATACGCCTTTCTCATATCCACTGCCAAAGGGACCAGTAGATGACA TTAATGCTGATAAGAATATCTCTTCTGCACAGATTGTTGGTCCTGGACCCAAGCCAGAAGCCTCTGCAAAGCTTC CTTCCAGACCTGCAGATAACTATGACAACTTTGTCCTACCAGAGTTGCCATCTGTGCCAGACACACTACCAACTG CATCTGCTGGTGCCAGCACCTCAGCATCTGAAGACATTGACTTTGATGATCTTTCCCGGAGGTTTGAAGAGCTGA AAAAGAAAACATAGGTCTCTTAAACCAGGCAACTTTCACGTTTTGGGAGTTGAGACTGAGCAATTTCTCCTTGTA ACAAAGAATCTCCATGAAATTCTGTTTCATCTGTTAACCGTCACTCAGCACAACACTCCCTCTGGGCTCTCTTCC TGCTCCTCCAGATTCTGCTGCTTTCCAGTTCTCTGTTGATCCTGAGACTAACAATTGGAGACTGAGGCCAGAGCA ACTGGCTCCTGGCAGCTGTGCTTGTCCGTTTCCTGTCAGAGTGATCCCAGGTTTTCCTCCTGGCCCGTCCCATGGT CCCTCCACAGGAGTGTGAGAGGATGGGGGAAGCACTGTGGGAAGACCACCAAAGATGGCTGGACAGTGGGAGAGA GCACGTTGTGAAGCATCCCAGCCTCGTGTTGAGGTTCCAGACTTAGAAACAGACCCCTCTGTACAGGGGGATTGT GGTGAGTGAGAATCAAGGCCACCTTGTGTGTTTTCTCACTCTCGAATGCAAGTGGGAGAGGGAAAATGACTCGGG ACGCCATTGTAACGGTTCCTGGAAGCTGGGCCCTCTCATTGGCATATACAGTACTCCTCGCTGCAGGGCACTGTC CCACCGGGATCCAGTTGCAAAGTTTGTCTTGACAGTTGAAGGCCTCGCTTAGTTGTACTGGATTCTCAGGGAGCC CTCTGTGGCCTTTTGCTTTGCGTGTTTTCCCTTGTACCAGAGGGCGCACCGTGGAAATTCTGTTTTCCCTGT AGCATATTGTGTTGGATTGCATTACTGGCAGAGAAAGGACAAGGTGCCATTCAAGTCCTAGGGTGGGCTTCCAGC TGCCTTAATAGAAGTACTCAAGTCTTTTGGGTAGTGAGCTGGAAAGCCTACAGGAAAAGAGGGGTACCTGTTTTC ATTTGAAAACTTTGATTCATGGAACCTTTAAAACTAATCTCAGAAAAATTTTTTGGTGCCCATGCAGCTGTAGTTG TTCACTGCTTTCCTGGATGGATGGGACTCTTATGTCATAACTTCTGTTACTCCTTTGGCCCATAGCTAAGGTCAT CCTTCCCCACAGGGGTGGCTTTGGGATTGGATACAGCTTTTGCTTCTGTAGTATACCTGTACATACTTGT TTCAGGCAGCCTTTCTTTAATGTTTTCAGTTGGTTTGTATTCTGTAGCTCAGTAGCTGCTAATAAAGTTAAAGAT CCTGTG

4984/6881 FIGURE 4600A

TCCACCACGGTCAATGTAGATTCCCTTGCGGAATATGAGAAGAGCCAGATCAAGAGAGCCCTGGAGCTGGGGACG GTGATGACTGTGTTCAGCTTCCGCAAGTCCACCCCGAGCGGAGAACCGTCCAGGTGATCATGGAGACGCGGCAG GTGGCCTGGAGAAGACCGCTGACAAGATCGAGGGCTTCTTGGATATCATGGAAATAAAAGAAATCCGCCCAGGG ACTCAGTTCGTCCTCAGCACGCTCAGCTTGGCAGCTGACTCTAAAGAGGGATGCAGTTAACTGGCTCTCTGGCTTG AAAATCTTACACCAGGAAGCGATGAATGCGTCCACGCCCACCATTATCGAGAGTTGGCTGAGAAAGCAGATATAT TCTGTGGATCAAACCAGAAGAAACAGCATCAGTCTCCGAGAGTTGAAGACCATCTTGCCCCTGATCAACTTTAAA GTGAGCAGTGCCAAGTTCCTTAAAGATAAGTTTGTGGAAATAGGAGCACACAAAGATGAGCTCAGCTTTGAACAG TTCCATCTCTATAAAAAACTTATGTTTGAACAGCAAAAATCGATTCTCGATGAATTCAAAAAAGGATTCGTCC GTGTTCATCCTGGGGAACACTGACAGGCCGGATGCCTCTGCTGTTTACCTGCATGACTTCCAGAGGTTTCTCATA CATGAACAGCAGGAGCATTGGGCTCAGGATCTGAACAAAGTCCGTGAGCGGATGACAAAGTTCATTGATGACACC ATGCGTGAAACTGCTGAGCCTTTCTTGTTTGTGGATGAGTTCCTCACGTACCTGTTTTCACGAGAAAACAGCATC TGGGATGAGAAGTATGACGCGGTGGACATGCAGGACATGAACAACCCCCTGTCTCATTACTGGATCTCCTCGTCA GCCTGTCGCTGCATTGAACTGGACTGCTGGGACGGGCCCGATGGGAAGCCGGTCATCTACCATGGCTGGACGCGG ACTACCAAGATCAAGTTTGACGACGTCGTGCAGGCCATCAAAGACCACGCCTTTGTTACCTCGAGCTTCCCAGTG ATCCTGTCCATCGAGGAGCACTGCAGCGTGGAGCAACAGCGTCACATGGCCAAGGCCTTCAAGGAAGTATTTGGC ATCATCAAGCATAAGAAGCTGGGCCCCCGAGGCGATGTGGATGTCAACATGGAGGACAAGAAGGACGAACACAAG CAACAGGGGGAGCTGTACATGTGGGATTCCATTGACCAGAAATGGACTCGGCACTACTGCGCCATTGCCGATGCC AAGCTGTCCTTCAGTGATGACATTGAACAGACTATGGAGGAGGAAGTGCCCCAGGATATACCCCCTACAGAACTA CATTTTGGGGAGAATGGTTCCACAAGAAGGTGGAGAAGAGGACGAGTGCCGAGAAGTTGCTGCAGGAATACTGC ATGGAGACGGGGGCAAGGATGGCACCTTCCTGGTTCGGGAGAGCGAGACCTTCCCCAATGACTACACCCTGTCC TTCTGGCGGTCAGGCCGGGTCCAGCACTGCCGGATCCGCTCCACCATGGAGGGCGGGACCCTGAAATACTACTTG ACTGACAACCTCACCTTCAGCAGCATCTATGCCCTCATCCAGCACTACCGCGAGACGCACCTGCGCTGCGCCGAG TTCGAGCTGCGGCTCACGGACCCTGTGCCCAACCCCAACCCCACGAGTCCAAGCCGTGGTACTATGACAGCCTG AGCCGCGGAGAGGCAGAGGACATGCTGATGAGGATTCCCCGGGACGGGCCTTCCTGATCCGGAAGCGAGAGGGG TTTGTGCTGGGGACCTCCGCCTATTTTGAGAGTCTGGTGGAGCTCGTCAGTTACTACGAGAAGCATTCACTCTAC CGAAAGATGAGACTGCGCTACCCCGTGACCCCCGAGCTCCTGGAGCGCTACAATATGGAAAGAGATATAAACTCC GAGCCCGGGGGCTGGTGGAAAGGAGACTATGGAACCAGGATCCAGCAGTACTTCCCATCCAACTACGTCGAGGAC ATCTCAACTGCAGACTTCGAGGAGCTAGAAAAGCAGATTATTGAAGACAATCCCTTAGGGTCTCTTTGCAGAGGA ATATTGGACCTCAATACCTATAACGTCGTGAAAGCCCCTCAGGGAAAAAACCAGAAGTCCTTTGTCTTCATCCTG AGCATCCGAGAGATCACCTGGAAGATTGACACCAAGGAGAACAACATGAAGTACTGGGAGAAGAACCAGTCCATC TACAATCAAAAGGGCCTGACCCGCGTCTACCCAAAGGGACAAAGAGTTGACTCTTCAAACTACGACCCCTTCCGC CTCTGGCTGTGCGGTTCTCAGATGGTGGCACTCAATTTCCAGACGGCAGATAAGTACATGCAGATGAATCACGCA TTGTTTTCTCTCAATGGGCGCACGGGCTACGTTCTGCAGCCTGAGAGCATGAGGACAGAAATATGACCCGATG CCACCCGAGTCCCAGAGGAAGATCCTGATGACGCTGACAGTCAAGGTTCTCGGTGCTCGCCATCTCCCCAAACTT GGACGAAGTATTGCCTGTCCCTTTGTAGAAGTGGAGATCTGTGGAGCCGAGTATGACAACAACAAGTTCAAGACG ACGGTTGTGAATGATAATGGCCTCAGCCCTATCTGGGCTCCAACACAGGAGAAGGTGACATTTGAAATTTATGAC ${\tt CCAAACCTGGCATTCTGCGCTTTGTGGTTTATGAAGAAGATATGTTCAGCGATCCCAACTTTCTTGCTCATGCC}$

4985/6881 FIGURE 4600B

4986/6881 FIGURE 4601

MSTTVNVDSLAEYEKSQIKRALELGTVMTVFSFRKSTPERRTVQVIMETRQVAWSKTADKIEGFLDIMEIKEIRP GKNSKDFERAKAVRQKEDCCFTILYGTQFVLSTLSLAADSKEDAVNWLSGLKILHQEAMNASTPTIIESWLRKQI YSVDQTRRNSISLRELKTILPLINFKVSSAKFLKDKFVEIGAHKDELSFEQFHLFYKKLMFEQQKSILDEFKKDS SVFILGNTDRPDASAVYLHDFQRFLIHEQQEHWAQDLNKVRERMTKFIDDTMRETAEPFLFVDEFLTYLFSRENS IWDEKYDAVDMQDMNNPLSHYWISSSHNTYLTGDQLRSESSPEAYIRCLRMGCRCIELDCWDGPDGKPVIYHGWT RTTKIKFDDVVQAIKDHAFVTSSFPVILSIEEHCSVEQQRHMAKAFKEVFGDLLLTKPTEASADQLPSPSQLREK IIIKHKKLGPRGDVDVNMEDKKDEHKQQGELYMWDSIDQKWTRHYCAIADAKLSFSDDIEQTMEEEVPQDIPPTE LHFGEKWFHKKVEKRTSAEKLLQEYCMETGGKDGTFLVRESETFPNDYTLSFWRSGRVQHCRIRSTMEGGTLKYY LTDNLTFSSIYALIQHYRETHLRCAEFELRLTDPVPNPNPHESKPWYYDSLSRGEAEDMLMRIPRDGAFLIRKRE GSDSYAITFRARGKVKHCRINRDGRHFVLGTSAYFESLVELVSYYEKHSLYRKMRLRYPVTPELLERYNMERDIN SLYDVSRMYVDPSEINPSMPORTVKALYDYKAKRSDELSFCRGALIHNVSKEPGGWWKGDYGTRIOOYFPSNYVE DISTADFEELEKQIIEDNPLGSLCRGILDLNTYNVVKAPQGKNQKSFVFILEPKQQGDPPVEFATDRVEELFEWF QSIREITWKIDTKENNMKYWEKNQSIAIELSDLVVYCKPTSKTKDNLENPDFREIRSFVETKADSIIRQKPVDLL KYNQKGLTRVYPKGQRVDSSNYDPFRLWLCGSQMVALNFQTADKYMQMNHALFSLNGRTGYVLQPESMRTEKYDP MPPESORKILMTLTVKVLGARHLPKLGRSIACPFVEVEICGAEYDNNKFKTTVVNDNGLSPIWAPTQEKVTFEIY DPNLAFLRFVVYEEDMFSDPNFLAHATYPIKAVKSGFRSVPLKNGYSEDIELASLLVFCEMRPVLESEEELYSSC RQLRRRQEELNNQLFLYDTHQNLRNANRDALVKEFSVNENQLQLYQEKCNKRLREKRVSNSKFYS

4988/6881 FIGURE 4603

 ${\tt MALRVVRSVRALLCTLRAVPLPAAPCPPRPWQLGVGAVRTLRTGPALLSVRKFTEKHEWVTTENGIGTVGISNFA} \\ {\tt QEALGDVVYCSLPEVGTKLNKQDEFGALESVKAASELYSPLSGEVTEINEALAENPGLVNKSCYEDGWLIKMTLS} \\ {\tt NPSELDELMSEEAYEKYIKSIEE} \\$

4989/6881 FIGURE 4604

 ${\tt MHPDLSPHLHTEECNVLINLLKECHKNHNILKFFGYCNDVDRELRKCLKNEYVENRTKSREHGIAMRKKLFNPPEESEK}$

GCGCAGGCGCGGCGGCGATGCGAGTGTGTATGTGCGGGCGAGAAGATGGCGGCGGCGGGGGAAGCAGCGTGAGC AGCCGGAGGATCGCGGAGTCCCAATGAAACGGGCAGCCATCGCCCTCCACAGCCCGCAGTATATTTTTGGAGATT TTAGCCCTGATGAATTCAATCAATTCTTTGTGACTCCTCGATCTTCAGTTGAGCTTCCTCCATACAGTGGAACAG TTCTGTGTGGCACACAGGCTGTGGATAAACTACCTGATGGACAAGAATATCAGAGAATTGAGTTTGGTGTCGATG AAGTCATTGAACCCAGTGACACTTTGCCGAGAACCCCCAGCTACAGTATTTCAAGCACACTGAACCCTCAGGCCC ATGGTGTCTCAGGTGGTCTTGGACAAAGGGAGCGTAAAAAGAAGAAAAAGCGGCCACCTGGATATTACAGCTATT TGAAAGATGGTGGCGATGATAGTATCTCCACAGAAGCCCTGGTCAATGGCCATGCCAATTCAGCAGTCCCGAACA GTGTCAGTGCAGAGGATGCAGAATTTATGGGTGACATGCCCCCGTCAGTTACGCCCAGGACTTGTAACAGCCCCC AGAACTCCACAGACTCTGTCAGTGACATTGTGCCTGACAGTCCTTTCCCCGGAGCACTCGGCAGTGACACCAGGA CTGCAGGGCAGCCAGAGGGGGGCCCCGGGGCTGATTTTGGTCAGTCCTGCTTCCCTGCAGAGGCTGGCAGAGACA CCCTGTCAAGGACAGCTGGGGCTCAGCCCTGCGTTGGTACCGATACTACTGAAAACCTTGGAGTTGCTAATGGAC AAATACTTGAATCCTCGGGTGAGGGCACAGCTACCAACGGGGTGGAGTTGCACACCACGGAAAGCATAGACTTGG ACCCAACCAAACCCGAGAGTGCATCACCTCCTGCTGACGGCACGGGCTCTGCATCAGGCACCCTTCCTGTCAGCC AGCCCAAGTCCTGGGCCAGCCTCTTTCATGATTCTAAGCCCTCTTCCTCCTCGCCGGTGGCCTATGTGGAAACTA AGTATTCCCCTCCCGCCATATCTCCCCTGGTTTCTGAAAAGCAGGTTGAAGTCAAAGAAGGGGCTTGTTCCGGTTT CAGAGGATCCTGTAGCCATAAAGATTGCAGAGTTGCTGGAGAATGTAACCCTAATCCATAAACCAGTGTCGTTGC CGATGTACCACCTGATGAAGTTCATTCCTCTGTATTCCAAAGTGCAAAGGCCTTGTACGTCAACACCCATGATAG ACAGCTTTGTTCGGCTAATGAATGAGTTCACTAATATGCCAGTACCTCCAAAACCCCGACAAGCTCTTGGAGATA AAATCGTGAGGGATATTCGCCCTGGAGCTGCCTTTGAGCCCACATATATTTACAGACTCCTGACAGTTAACAAGT CAAGCCTGTCTGAAAAGGGTCGACAAGAAGATGCTGAGGAATACTTAGGCTTCATTCTAAATGGACTTCATGAGG AAATGTTGAACCTAAAGAAGCTTCTCTCACCAAGTAATGAAAAACTTACGATTTCCAACGGCCCCAAAAACCACT AGACTTCCGTCACCCGCCAGGCGGATTTTGTTCAGACTCCAATCACCGGCATTTTTGGTGGACACATCAGGTCTG TGGTTTACCAGCAGAGTTCAAAAGAATCTGCCACTTTGCAGCCATTTTTCACGTTGCAGTTGGATATCCAGTCAG ACAAGATACGCACAGTCCAGGATGCACTGGAGAGCTTGGTGGCAAGAGAATCTGTCCAAGGTTATACCACAAAAA GATTCGTTTATGAGAAGACTGGTGGGTGCCAGAAGCTTATCAAAAATATTGAATATCCTGTGGACTTGGAAATTA GTAAAGAACTGCTTTCTCCAGGGGTTAAAAATAAGAATTTTAAATGCCACCGAACCTATCGGCTGTTTGCAGTGG TGCGCATCGATGACCAGACAGTCAAGGTGATCAACCAGTACCAGGTGGTGAAACCAACTGCTGAACGCACAGCCT ACCTCCTGTATTACCGCCGAGTGGACCTGCTGTAAACCCTGTGTGCGCTTGTGTGCGCCCAGTGCCCGCTTCGT AGGACACCACCTCACTCACTTCCCGCCTCTCTTTAGTGGCTCTTTAGAGAGAAACTCTTTCTCCCTTTGCAAA AATGGGCTAGAATGAAAAGGAGATGCCTTGGGGTTCGTGCACAACACACCTTCTGTTGACTCTAACTTCCAAATC AAAATCATTTGGTTGAAACAGACTGTTGCTTGATTTTAGAAAATACACAAAAACCCATATTTCTGAAATAATGCT GATTCCTGAGATAAGAAAGTGGATTTGATCCCCAGTCTCATTGCTTAGTAGAATAAATCCTGCACCAGCAACAAC ACTTGTAAATTTGTGAAAATGAATTTTATCTTTCCTTAAAAAAGAAATTTTTTTAATCCATCACACTTTTCTTCCC TACCCTTTAGTTTTTGATAAATGATAAAAATGAGCCAGTTATCAAAGAAGAACTAGTTCTTACTTCAAAAGAAAA ATAAACATAAAAAATAAGTTGCTGGTTCCTAACAGGAAAAATTTTAATAATTGTACTGAGAGAAACTGCTTACGT ACACATTGCAGATCAAATATTTGGAGTTAAAATGTTAGTCTACATAGATGGGTGATTGTAACTTTATTGCCATTA AAAGATTTCAAATTGCATTCATGCTTCTGTGTACACATAATGAAAAATGGGCCAAATAATGAAGATCTCTCCTTCA GTCTGCTCTGTTTAATTCTGCTGTCTCTCTCTCTAATGCTGCGTCCCTAATTGTACACAGTTTAGTGATATCT AGGAGTATAAAGTTGTCGCCCATCAATAAAAATCACAAAGTTGGTTT

4992/6881 FIGURE 4607

MALHSPQYIFGDFSPDEFNQFFVTPRSSVELPPYSGTVLCGTQAVDKLPDGQEYQRIEFGVDEVIEPSDTLPRTP
SYSISSTLNPQAPEFILGCTASKITPDGITKEASYGSIDCQYPGSALALDGSSNVEAEVLENDGVSGGLGQRERK
KKKKRPPGYYSYLKDGGDDSISTEALVNGHANSAVPNSVSAEDAEFMGDMPPSVTPRTCNSPQNSTDSVSDIVPD
SPFPGALGSDTRTAGQPEGGPGADFGQSCFPAEAGRDTLSRTAGAQPCVGTDTTENLGVANGQILESSGEGTATN
GVELHTTESIDLDPTKPESASPPADGTGSASGTLPVSQPKSWASLFHDSKPSSSSPVAYVETKYSPPAISPLVSE
KQVEVKEGLVPVSEDPVAIKIAELLENVTLIHKPVSLQPRGLINKGNWCYINATLQALVACPPMYHLMKFIPLYS
KVQRPCTSTPMIDSFVRLMNEFTNMPVPPKPRQALGDKIVRDIRPGAAFEPTYIYRLLTVNKSSLSEKGRQEDAE
EYLGFILNGLHEEMLNLKKLLSPSNEKLTISNGPKNHSVNEEEQEEQGEGSEDEWEQVGPRNKTSVTRQADFVQT
PITGIFGGHIRSVVYQQSSKESATLQPFFTLQLDIQSDKIRTVQDALESLVARESVQGYTTKTKQEVEISRRVTL
EKLPPVLVLHLKRFVYEKTGGCQKLIKNIEYPVDLEISKELLSPGVKNKNFKCHRTYRLFAVVYHHGNSATGGHY
TTDVFQIGLNGWLRIDDQTVKVINQYQVVKPTAERTAYLLYYRRVDLL

GGAAGCCGACGCCGCGCTCGCATGCTCGCAGGCGCCGCGTAGCCGTCGCCACCGCCGCCAGCCCGTGCGCCCTCG GGCTCCGCGGCGATGGCCACCAAGATCGACAAAGAGGCTTGCCGGGCGGCGTACAACCTGGTGCGCGACGACGACGAC CACTTCATCCAGCAGTGCACAGATGACGTCCGGTTGTTTGCCTTCGTGCGCTTCACCACCGGGGATGCCATGAGC AAGAGGTCCAAGTTTGCCCTCATCACGTGGATCGGTGAGAACGTCAGCGGGCTGCAGCGCGCCAAAACCGGGACG GACAAGACCCTGGTGAAGGAGGTCGTACAGAATTTCGCTAAGGAGTTTGTGATCAGTGATCGGAAGGAGCTGGAG ACCAGCCCACCAGGGAGAAAAGAAGCCATGAGAGGCAGCCCCGCCACCTGTGTGCACAGCCCCACCTTCCCG TGCAGTGACCCCTTTTCCTGGCATTTCTCTTCCACGCGACGACGTCTGCCTAGTGAGATCTGCATGACCTCACGT TGCTTTCCAGAGCCCGGGCCTATTTTGCCATCTCAGTTTTCCTGGACCCTGCTTCCTGTGTACCACTGAGGGGCA GCTGGGCCAGGAGCTGTGCCCGGTGCCTGCAGCCTTCATAAGCACACGTCCATTCCCTACTAAGGCCCAGACC TCCTGGTATCTGCCCCGGGCTCCCTCATCCCACCTCCATCCGGAGTTGCCTAAGATGCATGTCCAGCATAGGCAG GATTGCTCGGTGGTGAGAAGGTTAGGTCCGGCTCAGACTGAATAAGAAGAGATAAAATTTGCCTTAAAACTTACC TGGCAGTGGCTTTGCTGCACGGTCTGAAACCACCTGTTCCCACCCTCTTGACCGAAATTTCCTTGTGACACAGAG AAGGGCAAAGGTCTGAGCCCAGAGTTGACGGAGGGAGTATTTCAGGGTTCACTTCAGGGGCTCCCAAAGCGACAA GATCGTTAGGGAGAGGCCCAGGGTGGGGACTGGGAATTTAAGGAGAGCTGGGAACGGATCCCTTAGGTTCAGG AAGCTTCTGTGTAAGCTGCGAGGATGGCTTGGGCCGAAGGGTTGCTCTGCCCGCCGCCTAGCTGTGAGCTGAGC AAAGCCCTGGGCTCACAGCACCCCAAAAGCCTGTGGCTTCAGTCCTGCGTCTGCACCACACATTCAAAAGGATCG TTTTGTTTTTAAAGAAAGGTGAGATTGGCTTGGTTCTTCATGAGCACATTTGATATAGCTCTTTTTCTGT TTTTCCTTGCTCATTTCGTTTTGGGGAAGAATCTGTACTGTATTGGGATTGTAAAGAACATCTCTGCACTCAGA CAGTTTACAGAAATAAATGTTTTTTTTTTTTCAG

4994/6881 FIGURE 4609

 ${\tt MATKIDKEACRAAYNLVRDDGSAVIWVTFKYDGSTIVPGEQGAEYQHFIQQCTDDVRLFAFVRFTTGDAMSKRSK_FALITWIGENVSGLQRAKTGTDKTLVKEVVQNFAKEFVISDRKELEEDFIKSELKKAGGANYDAQTE}$

.AGGGATCATGAACGAAAGGAAGAAACTTTTACCCCAATGCCCAGCCCTTACTACATGGAACTTACGAAGCTCCTG TTAAATCATGCTTCAGACAACATCCCGAAGGCAGACGAAATCCGGACCCTGGTCAAGGATATGTGGGACACTCGT ATAGCCAAACTCCGAGTGTCTGCTGACAGCTTTGTGAGACAGCAGGAGGCACATGCCAAGCTGGATAACTTGACC TTGATGGAGATCAACACCAGCGGGACTTTCCTCACACAAGCGCTCAACCACATGTACAAACTCCGCACGAACCTC CAGCCTCTGGAGAGTACTCAGTCTCAGGACTTC<u>TAG</u>AGAAAGGCCTGGTGCAGGCGGCTTGCTGGGGGATGTGAG CGCTCAGGATGTGATGAGGTACTCGTGGTTCTGGAGCTCTAGAAACACTTCTGATGCATGAAAAATGTGTGATGG TGCAAGGAATGGATTCAGGATGTTGTTGGAGAAACAAGTTTGTGATTAGTCCTTAAAACTTAGCTCCCTGGGACA TTCTTCAATTCCACATCTGTTTCTAGAAACCAGCCCTTTTTCCCCCCCACTTTTGAGAAATAAAAAAGCCTTAGGT AAATAAGTCATTCTCCCTAGCAGAGCCACTTGGGTCTCCTGCATGGAAGCCGTCACACTTGGGCAGGTGTTCAGT GACTGGTAGGTGTAGATACAGCAGGAGTGGCCATGTGGTCCACGGCTTTTTACCCCTTCTTGATCCTGATTTCTT GGGCTGAATTTAGACTCTCTCACAGAGGTGGCTCACAGAGAAGGATGGCAGATGGTGCAGCCAACAATGCTGACC

4996/6881 FIGURE 4611

MDAAEVEFLAEKELVTIIPNFSLDKIYLIGGDLGPFNPGLPVEVPLWLAINLKQRQKCRLLPPEWMDVEKLEKMR DHERKEETFTPMPSPYYMELTKLLLNHASDNIPKADEIRTLVKDMWDTRIAKLRVSADSFVRQQEAHAKLDNLTL MEINTSGTFLTQALNHMYKLRTNLQPLESTQSQDF

4997/6881 FIGURE 4612

GGCACGAGGCTTCCCAGAGGCGCGAGTCGCTTTTCCAGGAGCCCAAACGGGGCCGGGCCTGAAGGGTCC CCCGCCAGCCCGCGCCGCCATCAATCGCCGCCGCCTCCTCCGCCTCTCGGCTGAGGCGCCGCGCGCCAGG CAGC GGTCCAGGCCTCAGCCGCGCGCCCAGGGGCCTCCGGGGCCCTCCCGGGTCAGCATCCCCGGGTGAAACT GACCACCCAGGCCTACTGCAAGATGGTGCTGCACGGCGCCAAGTACCCGCACTGCGCCGTCAACGGGCTCCTGGT GGCCGAGAAGCAGAAGCCGCGTAAGGAGCACCTCCCCCTGGGCGGCCCCGGCGCCCACCACCACCTCTTCGTGGA GTGCAAAGATCATAGCTACGTGATTGCTGGTTATTATCAAGCTAATGAGCGAGTAAAGGATGCCAGTCCAAACCA GGTTGCAGAGAGGTGGCCTCCAGAATCGCCGAGGGCTTCAGCGACACTGCGCTCATCATGGTAGACAACACCAA GTTTACGATGGACTGCGTAGCGCCTACGATCCACGTGTACGAGCACCATGAGAACAGATGGCGGTGCAGAGACCC ACACCATGACTACTGTGAAGACTGGCCAGAGGCACAGAGGATCTCAGCCTCGCTCCTGGACAGCCGGTCCTACGA GACGCTCGTGGATTTCGATAACCACCTGGATGACATTCGGAATGACTGGACAAACCCAGAGATCAATAAAGCTGT CCTACACTTGTGCTAGGCAGGCACCGCTGTGACTGGGCTCCGGGCCTTTCCACTACGTTGAAGAAGAAAACCTAT TTTTAAATGTAAATAAATATCTGGTAGCCTGTGTGGAAAGCTGACCGTTTTAAGAAGTGGCATGTGCCTTGAAA GGGGGCAGAATGTTCAGTCGGTCGTGTTTTTAACACAGAGTCTCTAGAAGAGGTGCAGACATCCCGTCTGACTGT CCCTGTGGACTCTCTCAGTTGTATGTTGCTATAATCCTCCAAATCAAAGCTCTTTCTGCTTGTGCAAGATTGTTC CTATTAAACAGTTTTAACTAACCTTTTATAATCTGGAGAGAATACTTTTTAAGGCTTTTGAACTATCTTTTTTA AAAAAAAAAAAAGCCCACATCTTATACTCCAATGAGTGTGTTTGTGAGTTTTTATCCTGTTTGAATTTTGATGT CGTCCAGGCGTCCTGGGATCAGGGTAGACACGTGGAGTGCTGGTGCTGAGCTGTTTGAGAAGCTCTGTGTGGGTG TTTCTGTGGTCAGGTAGGCTGGGCTGTGAACAGCACTGCTCCACATGGTGTCGGCTCACAGAGCCACCGCAACTC TGCCCAGCGGGAGTGACACCACTGATGCCACAGAAGCCTTTATCGTTAGGGGCAAAAGCAGACATCTCTGGTAGC AGGAGCTCAGTGTGGTGCTCTTCAGCCACGCAGAAAGCTCACGTGCCTGCAGGGCCAGGAAAGGGAAATGATCGT TTCTTTTGTATTAGGAAAAACAAGACTTAGACTTCCCGAGTTGTGCAGAGTGACGTCTGTACTTTTTATACTTAG AACATTTGGTCAAGTTTTGTAACCAAACCTTAGGGAATTGAGAGGGAAACTTTATGGTACGTTTACCTTTTTTCC TTTTTATATGAATTATTTTGTACAAAGTTCAGAGAGCGGTACCTTTCCTACTGTCTTTTCTTTGACTCCATGGAG GAATTTGTAACGATCGGTGTGACCTGAAAGGGTTTGTGATACAGCGGTCACTATTTTCTCTTAACACATAGGAAA

4998/6881 FIGURE 4613

MPGVKLTTQAYCKMVLHGAKYPHCAVNGLLVAEKQKPRKEHLPLGGPGAHHTLFVDCIPLFHGTLALAPMLEVAL TLIDSWCKDHSYVIAGYYQANERVKDASPNQVAEKVASRIAEGFSDTALIMVDNTKFTMDCVAPTIHVYEHHENR WRCRDPHHDYCEDWPEAQRISASLLDSRSYETLVDFDNHLDDIRNDWTNPEINKAVLHLC

4999/6881 FIGURE 4614

MLATRVFSLVGKRAISTSVCVRAHESVVKSEDFSLPAYMDRRDHPLPEVAHVKHLSASQKALKEKEKASWSSLSM DEKVELYRIKFKESFAEMNRGSNEWKTVVGGAMFFIGFTALVIMWQKHYVYGPLPQSFDKEWVAKQTKRMLDMKV NPIQGLASKWDYEKNEWKK

5001/6881 FIGURE 4616A

GTTCTAGAACATTCTCATCACCCATATTTACATTTATTTTTAATAACTCTCATGTGTAAGCTGAGTGTTTTAAAC TTTAGAGACTTCTGGGGGGTGCTGAACTTGATAAAAATATTCAGTATACAAGTGTTCTTTATAGTTCACTCATCA TTTTCATAGAATTAGGGTTTTAAAATTAGAAAGTAATTTAGGCCATTTCCATCTCCTGTCCCTCAAATCCCAGCT CAGTTTTGGGATGAGGTGTCAAGTATAAGTTTGTAAGTATGCCAGTCATTTGCACGGCTAAGAGAAACATCTAGA GAAGTCTATATACGACTTGCTTAAAGCTGAATGTTGATTTACTGTTCACATGATTTGGGTGATTTTAGTCACTGG GACTGAGCTAATGGAGTTGAAGCATTGTTGCGGGCATTGTACCTCCAGACCAGTGTGTAATACAAAGAGTTCTTG TTTCTGATTTCTGAACTTTTTTCCATGTGATACCTGCTGCTTTGAAGGCACTAAAATAACAGAAGCAGATAGAGC AGAAATCCTCACTCAGATCTTCCTCCTTCCTACCTGTATAACAGTTTGTGGCTTGCCTTGTCTGTTTTTGTGCGTT TCGTTACGCGTATGTGAGTATGTGCACGTGATTTCCAGAAAGGAGAAGCGCACGATACTGCCCGTGCTCTGTGAC TCCTGAGTGCACGCTTCCTCTGCATTTGGGCTCCTAGGTCGGCCTCGTCCTGTGGACGTTGCCCCTTGTTTCGTG CCATCCACACATTCCTGATGCCCCGCTGCTCTACTCTTTCTCCAGAGTACTTTTTCCAAACATGTGATTTGCACA TTTGTTATGTTTATTGTTTTCCACTTCTAGAAGTGTGCCACTAGGCAGGAATGTTTGATTTGTTCACTGAT ATCCTCGTTTCTAAGAGCTAGCACGATTTCTCACTCAGTCCTGGTTGGACACAGGTTCCCTGGAACAGTGCTGTT GTGGTTATCTTCTCACGTGTCTTTGTTTCTGAACTTGAAACGCTTTGAGTTTTTTATTGTTTTTTGTTCTTCCTCA TTAGTTTGAGTCCCTTGCAGATAGGCTTTCATTTTGTCCAGTCACCTGTTCAGGGAGCCCTGAGGGCCTTGGCCC AGTGCAGCGGTGCGATCTCAGCTCACTGCAACCTCCGCCTCCTGCGTTCAAGCGATTCTCCTGCCTCAGCCTTCC GAGTAGCTGGGACTATAGGCACGTGCCGCCACGCCCGGCTAATTTTTTGTATTTTTAGTAGAGACGGGGTTTCAC AGGTGTGAGCCACCGCGCCCAGCCCTGCAGGTAACTGTTAATGTAGGAAGTGCTGCCTCTGGGCACCTTGGCCCC AGGGTTCATTAGCAGTTGCCCCTGGTGGGTTTTTGTTGGCTGTGATGAGAAGTGCTTCTGTTCCCCCTCCACCAC ACTCCTGCAACTGTTTAAACAGTGGCTGTGACCCCCTGAGATGATCCAGGGTTTCAAGGCGTGCACATGTCTGTG TTTCGGTTTTCAGAAGTATCACCTTGGGGTGACTCTCAACTTACATGGATTTTCAAAGATTTATTCAATATGTTT TTCAGAAAGTGTTGTGAAGAGCGAAGACTTTTCGCTCCCAGCTTATATGGATCGGCGTGACCACCCCTTGCCGGA GGTGGCCCATGTCAAGCACCTGTCTGCCAGCCAGAAGGCATTGAAGGAGAAGGAGAAGGCCTCCTGGAGCAGCCT CTCCATGGATGAGAAAGTCGAGTGTGGGTATTGAAGGGACCCACAGGCGCGCCCAGCAGCTCTCGGAAGCGTGTG TGTGACAGAGCCTCTGCTCACTTCTGGGCCTACTGTCTAGAGGCAGTCTTGCACAGGAGGGTTGCTCTGCTGGGT TTCGGGGTCACTGTGCCAGGGCCCCAGTTTATGTGCTCACCAGTCACTTAGCTCTGCCAGCTGACAGGATCTTTT GCTAGGCCCCCTTCTCTGTGCTGAGTGGAGGTAGCCTCTCAGCATATCTGCTGGGTAAGACATAGTTAACTGTAA ATTATTGAAAGAAACTCAGCAAAATGCATAGTGTTTGGTATGAAAGGGGCAGAAAAATAACAAGATTAAATAGAC CCTAATACTGTAATTCAAGTAAGAAATAATTTTGCAGTTTTAATTTGCACCTGAAGCGAACTGTATGCATTTTCT TGGTGTATCCTTCAGCTCTGTGTTTCCTCCTTCACAAGTGTGGTTTTGGGGAAAGTGGTTGAATGTTGCAGAGG AGGGAGCTGCTGACCTTTGTGCCTGTAAATGGCTGTCCTCTCTCCCCCCAGTGTATCGCATTAAGTTCAAGGAGA GCTTTGCTGAGATGAACAGGGGCTCGAACGAGTGGAAGACGGTTGTGGGCGGTGCCATGTTCTTCATCGGTTTCA TCCAGCCTGCAGTGCCCATTGGTGGGCTGTCGGGGACCTCCATACCTTGAGGCTATGAGATAGGGACTGCATTCC AGAGTTCATCTCAGGATTGTTTCCAGGCCTTGGTGACCTGGAGAACTGAAGTCGTGGGAGGTTAGTTTATAAGCC AGCATCTGATTATTCATAGCCATGCTTGTTGGGTGGTGAAATACCTTAACTACTTTGTACAGCACACCACGTTTT CAGTAGCAATTTATGTGCTCACCAGTCACTTAGCGAAAGATGACTTCGTGAAGGTTCGAGCAAGGATAAGGGGAC GAACAGGCATTTTTGCATTCTGAATAGGTATATTCTCGTACTTTTGGTTTGAATGTGGATGTGGGTTAATAACAG ACCCGAATCTATTTGATCTTCCAGGTCACCTTGGGCTCTGTTTGTCAGATCCTGTTATCCATAGCCTTTAGAGAG

5002/6881 FIGURE 4616B

GCCGTTTTCTTTCCTGGTGTCCCGTCGCGGCTTGGGACCCGGCAAGATCGGCAAGAAGAGGCCAAGAAGAAGAAGAAGAA GGGCCGCGGGGGGAGAAGACGGCCGCCAAGATGGAGAAGAAGGTGTCTAAGCGCTCGCGGAAGGAGGAGGAAGAAGA CCTGGAAGCGCTCATAGCCCATTTCCAGACACTCGATGCCAAGAGGACTCAGACTGTGGAACTTCCGTGCCCCCC ACCCTCACCAAGGTTAAATGCCTCCCTCTCGGTTCATCCTGAGAAAGATGAGTTAATCCTTTTTGGAGGTGAATA TTTCAACGGCCAAAAAACTTTTTTGTATAACGAGCTCTATGTCTACAATACCAGAAAGGACACCTGGACCAAAGT TGACATCCCCAGTCCACCTCCGAGGCGCTGTGCTCACCAGGCGGTGGTAGTGCCTCAAGGTGGCGGACAGCTGTG GGTCTTTGGAGGGGAGTTTGCCTCTCCCAACGGAGAGCAGTTCTACCACTACAAGGATCTCTGGGTCCTGCATTT GGCCACCAAGACCTGGGAACAAGTCAAATCAACAGGCGGTCCTTCGGGTCGGAGTGGACATCGGATGGTGGCCTG GAAGAGACAATTGATCCTGTTTGGTGGCTTCCATGAAAGTACACGGGATTACATCTACTACAACGACGTGTATGC CTTTAATCTGGACACCTTCACATGGAGCAAGCTGTCCCCGTCAGGGACGGGCCCACACCCCAGATCAGGCTGCCA CAAGGGCACACGGCACTCAGACATGTTCCTGCTGAAGCCAGAGGACGAAGAGACAAGTGGGTTTGGACTCG GATGAACCCTTCGGGGGTCAAGCCCACCCCACGGTCTGGCTTTTCCGTGGCCATGGCCCGAATCACCAGACACT GTTCTTCGGGGGTGTCTGTGACGAGGAGGAGGAGGAGGAGCCTGTCGGGCGAGTTCTTCAACGATCTGTACTTCTA CGACGCCACCAGGAACCGTTGGTTTGAGGGACAGCTGAAGGGACCCAAGTCTGAAAAGAAGAAACGCAGGCGGGG CAGAAAAGAGAGCCCGAAGGTGGTAGCAGGCCGGCGTGTGGGGGAGCTGGCACCCAGGGGCCTGTGCAGCTGGT CAAGGAGGTGGTCGCCGAGGATGGCACCGTGGTCACCATTAAGCAGGTGCTCACCGCGCCAGGCTCGGCGGGGCA ${\tt GCCCCGGTCTGAGGACGAAGACAGCCTTGAGGAGGCCGGCAGCCCGCACCTGGGCCGTGTCCACGCTCCAACGC}$ CATGCTGGCTGTGAAGCATGGGGTGCTCTACGTCTATGGGGGCCATGTTTGAGGCCGGCGACCGCCAGGTCACCCT CAGCGACCTGCACTGCCTGGACCTGCACAGGATGGAGGCGTGGAAGGCCTTGGTGGAGATGGACCCAGAAACTCA GGAGTGGCTGGAGGAGACGGACTCGGAAGAGGACAGTGAGGAGGTTGAGGGCGCCGAGGGTGGGGTCGACGACGA AGACAGCGGAGAGAGGGGTGCGGAGGACTGAGAAGAGCCCCTGCCAGGGGCGCCTGGCAAGTGCTGTGCCCA AAGGTGGGTGGCCCAGGCCAGGGTGTGAACTTTCTCCCATGGTTTAGTCTCTGACGCGGCACTGGGCCGGAAGTT AAAAAAAAAAA

5004/6881 FIGURE 4618

MGKKGKKEKKGRGAEKTAAKMEKKVSKRSRKEEEDLEALIAHFQTLDAKRTQTVELPCPPPSPRLNASLSVHPEK
DELILFGGEYFNGQKTFLYNELYVYNTRKDTWTKVDIPSPPPRRCAHQAVVVPQGGGQLWVFGGEFASPNGEQFY
HYKDLWVLHLATKTWEQVKSTGGPSGRSGHRMVAWKRQLILFGGFHESTRDYIYYNDVYAFNLDTFTWSKLSPSG
TGPTPRSGCQMSVTPQGGIVVYGGYSKQRVKKDVDKGTRHSDMFLLKPEDGREDKWVWTRMNPSGVKPTPRSGFS
VAMAPNHQTLFFGGVCDEEEEESLSGEFFNDLYFYDATRNRWFEGQLKGPKSEKKKRRRGRKEEPEGGSRPACGG
AGTQGPVQLVKEVVAEDGTVVTIKQVLTAPGSAGQPRSEDEDSLEEAGSPAPGPCPRSNAMLAVKHGVLYVYGGM
FEAGDRQVTLSDLHCLDLHRMEAWKALVEMDPETQEWLEETDSEEDSEEVEGAEGGVDDEDSGEESGAED

5005/6881 FIGURE 4619

GGCGCAGTACACCTGCCCCATCTGCCTGGAGGTCTATCACCGGCCCGTGGCCATCGGCAGCTGCGGCCACACGTT CTGCGGGGAGTGTCTCCAGCCCTGCCTGCAGGTGCCATCCCCGCTGTGCCCACTGTGCCGCATGCCCTTCGACCC CAAGAAGGTGGACAAGGCCACCCACGTGGAGAAGCAGCTCTCATCCTACAAAGCGCCCTGTCGAGGCTGCAACAA CAAGTTCGTCCCCGTGGTGCCCACATCACAGCCTATCCCCAGCAACATCCCCAACAGGTCCACCTTCGCCTGCCC GTACTGTGGTGCCCGCAACCTGGACCAGCAGGAGCTGGTGAAGCACTGTGTGGAAAGCCACCGCAGCGACCCCAA CCGCGTGGTGTGCCCCATCTGCTCGGCAATGCCCTGGGGGGGACCCCAGCTACAAGAGCGCCAACTTCCTGCAGCA CCTGCTTCACCGACACAAGTTCTCCTACGACACCTTTGTGGACTACAGTATTGACGAGGAGGCCGCCTTCCAGGC TGCTCTGGCCCTGTCTCTCTGAGAACTGAAGGGAAGCGCAGCCACCCGCCTGCGTCTGGGGTCAGGGATGTCC CCGCTCCTGTGTCGCACCTGGCACCTGCTCGGGAGTGCACCTCACCGGACTGAGCTCACAGGAGGAGCCTGCACC CGCGCAGAAGGGGAGCCGGGGCCGAGCCTCCGGGCCTGAATACGGGCCAGCCGCCGAGGCCGCCAGAGCAGGGCC GCCTGGTCCCACCGCCTCGCTGCTTCTTCGGTGCTTCTTCGGCCGAGCAGCCGCCTACTTGGGCAGGGCTGGAC GCTGAGACCTGGAGCTGCCACCGTCTCTTCAAGCCATGATACCCCCTCGTGGGAAGAAGGGACCGACGCGCGAGT ${\tt CGCGGCTGCGCAGTCGAGCCCGGGAGGAACCCAGGCTGCTGCCCTGGCCAGCCCGACCCTGCCCCGGCCCCACTT}$ CCACCTTGCGCATTTGGTACTGGCTTTTGTGATACTTAGGAACCCTGGCATCTTTTCTATATTATCCAGTGTGAT AATCTTTTCACGTTTTATAGAGCAAAGACAGAGCAGTTACTCTTCATATTGCAATATCTGTGTTTGACTAGGAAT AATAGTATTTTTATGGAACATTTACAAAATTATATTTTTTAAGAAAACAATCAAAACAAGCATTGGGGGATTGGG GCAAGGATGGAAGGAGCAGTGGGGCAGCTGCCAGAGCTCAGGCGAGCCATGGGGTCTGCTGTGGGGTCTGCCCTG GCCACCCACTGTGTGTCTGGGTCCTTGAGGTTTGTACGTTTCTCTTTGATGACCAGGAAGAAATCCCAGCACCCC AGCCACAGGCTGTGGCTGCTCCCAGCAGAGGCGGGGCCCGGCAGAGAAGGGGGCCTCCTCCACCCAGAGTCCTGGCC TGCTGTCTTTTTTTAAAAAAAAAAGTTTAAATAAAATGTCTCAGAGC

MAMFRSLVASAQQRQPPAGPAGGDSGLEAQYTCPICLEVYHRPVAIGSCGHTFCGECLQPCLQVPSPLCPLCRLP FDPKKVDKATHVEKQLSSYKAPCRGCNKKVTLAKMRVHISSCLKVQEQMANCPKFVPVVPTSQPIPSNIPNRSTF ACPYCGARNLDQQELVKHCVESHRSDPNRVVCPICSAMPWGDPSYKSANFLQHLLHRHKFSYDTFVDYSIDEEAA FQAALALSLSEN

 $\verb|CTCCGACGTCATCGGGGCGCCCCTCGCGCTGTCGCCGCCACAGTCTGCGACGGGACCCGGCGTGCCCATGTGTC| \\$ AGGTGGGCGAGGACTACGGGGAGCCGGCGCCTGAGGAGCCGCCCCCGGCGCCCCAGGGACTGTTTCAAGG CCTTCTACGTCCACAAGTTCAGAGCCATGCTGGGCAAGAACCGGCTCATCTTTCCAGGCGAGAAGGTGCTCTTGG CGTGGTCTGGGGGGCCTTCGTCCAGCTCCATGGTCTGGCAGGTTCTTGAGGGCCTGAGCCAAGATTCTGCCAAAA GACTGCGCTTTGTGGCAGGAGTCATCTTTGTTGACGAGGGAGCAGCCTGTGGCCAGAGCCTAGAGGAGAGATCAA AGACCCTGGCCGAAGTGAAGCCCATTCTGCAAGCAACTGGGTTCCCATGGCATGTGGTGGCCTTAGAGGAGGTGT ${\tt TGGACAGCTTCCTCCAGCAGCAGCATGTGCTGGGGGGCCGGGGTGGTCCTGGCCCGACTCAAGGGGAGCAACAGC}$ TGTTCTGCTCAGTGAGGACACTGACTGCCAAGGAGGAGCTTCTGCAGACCCTGCGGACCCACCTGATCCTCCACA TGGCCCGAGCCCACGGCTACTCCAAGGTCATGACTGGGGACAGCTGCACACGCTTGGCTATCAAGCTCATGACCA ACCTGGCGTCGGGTCGAGGGGCCTTCCTGGCCTGGGATACGGGCTTCTCGGATGAGCGGCACGGGGACGTGGTGG TCACACCAGCCGTCGACACCAAGGCCCCTGAAAAGGCCAGCATCCACCGGCTGATGGAGGCCTTCATCCTCAGGC TGCAGACCCAGTTCCCCTCCACTGTCAGCACTGTGTACAGGACAAGTGAGAAGCTGGTGAAGGGCCCCCGGGATG GCCCTGCTGCTGGCGACTCCGGCCCCCGCTGCCTCTCTGCATGTGTGCCCTGGACGTCGACGCCGCTGACAGTG ACCCCCAAGCCTGCATTGAGGAGCAGCTGTGCTACAGCTGCCGCGTGAACATGAAGGACTTGCCCTCACTGGACC CCCTGCCGCCGTACATCCTGGCTGAGGCCCAGCTCCGCACACAGAGGGCCTGGGGCCTTGCAGGAGATCCGGGACT GGCCACCTGGTACACCACACTGGAGCCGGAAGGCAAGGACGGGGGACTGGCCTCTGATTGTCCATTTGTATAAAT AAAACATTTTTTAATT

CGCGCACTCCGCCGCCATGGAGCAGCGCCGCGTCACCGACTTCTTCGCGCCCCGCCCCCCGGGCCCCCCGCAT CGCGGCGCCCAAGCTGGCCTGCCGCACCCCAGCCCGGCCAGGCCCGCACTCCGCGCCCCGGCCTCCGCTACCAG TGGCAGCCGCAAGCGCCCCGCCCGCCCGCCCCCCGGACGCGACCAGGCCAGGACACCGGCCCGCAGGAGACAC GCGGCTGTCGGTGGACGAGGTTTCCAGCCCCAGTACCCCCGAGGCCCCAGACATCCCAGCCTGCCCTTCTCCGGG CCAGAAGATAAAGAAATCCACCCGGCAGCAGGTCAGCCGCCCCACCTGACATCCGCGCAGGACCAGGACACCAT CTCTGAGCTTGCGTCATGCCTGCAACGGGCCCGGGAGCTGGGGGCCAAGAGTCCGGGCGCTGAAGGCCAGTGCCCA CCAGCGCTTCCATGCCCTGGCCCAGCCCGGCCTGCCGGGACTCGTGCTGCCCTACAAGTACCAGGTGCTGGCGGA GATGTTCCGCAGCATGGACACCATCGTGGGC<u>ATG</u>CTCCACAACCGCTCCGAGACGCCCACCTTTGCCAAGGTCCA GCGGGGCGTCCAGGACATGATGCGTAGGCGTTTTGAGGAGTGCAATGTTGGCCAGATCAAAACCGTGTACCCGGC CTCCTACCGCTTCCGCCAGGAGCGCAGTGTCCCCACCTTCAAGGATGGCACCAGGAGGTCAGATTACCAGCTCAC CATCGAGCCACTGCTGGAGCAGGAGGCTGACGGAGCAGCCCCCAGCTCACGGCCTCGCGCCTCCTGCAGCGACG GCAGATCTTCAGCCAGAAGCTGGTGGAGCATGTCAAGGAGCACCACAAGGCCTTCCTGGCCTCCCTGAGCCCCGC CATGGTGGTGCCGGAGGACCAGCTGACCCGCTGGCACCCGCGCTTCAACGTGGATGAAGTACCCGACATCGAGCC GGCCGCGCTGCCCAGCCACCCGCCACGGAGAAGCTCACCACTGCTCAGGAGGTGCTGGCCCGGGCCCGCAACCT GATTTCACCCAGGATGGAGAAGGCCTTGAGTCAATTGGCCCTGCGCTCTGCTGCGCCCCAGCAGCCCCGGGTCTCC GGATCTGCTGGAGCGGATCCGAGCCAAGGAGGCACAGAAGCAGCTGGCACAGATGACGCGGTGCCCGGAGCAGGA GCAGCGGCTGCAGCGCTTAGAACGGCTGCCTGAGCTGGCCCGCGTGCTGCGGAGCGTCTTTGTGTCCGAACGCAA GCCTGCGCTCAGCATGGAGGTGGCCTGTGCCAGGATGGTGGGCAGCTGTTGTACTATCATGAGCCCTGGGGAAAT GGAGAAGCACCTGCTGCTCCTCCCGAGCTGCTGCCGGACTGGCTCAGCCTCCACCGCATCCGCACCGACACCTA CGTCAAGCTGGACAAGGCCGCGGACCTCGCCCACATCACTGCACGCCTGGCCCACCAGACACGTGCTGAGGAGGG GCTGTGAGCCTGGGGGCCACTGTGGACAGACGTGGGCTTCAGAAGCTCGCTGGCCTGGGCCCACCAGCATTTTCT TTTATGAACATGATACACTTTGGCCTTCCTTTCCCCAGCGCCCCTGAGGGCCAGAGGCAGATGTGGGCTGCAGGC TGCACAGCCCGAGGGTCTCTGGCTGCGGCGGTGGGCCCCTTCATGGGGCTCACCTGGTGGATTCACATTAAACC GGTTTCTGTGGGC

50.09/6881 FIGURE 4623

MFRSMDTIVGMLHNRSETPTFAKVQRGVQDMMRRRFEECNVGQIKTVYPASYRFRQERSVPTFKDGTRRSDYQLT IEPLLEQEADGAAPQLTASRLLQRRQIFSQKLVEHVKEHHKAFLASLSPAMVVPEDQLTRWHPRFNVDEVPDIEP AALPQPPATEKLTTAQEVLARARNLISPRMEKALSQLALRSAAPSSPGSPRPALPATPPATPPAASPSALKGVSQ DLLERIRAKEAQKQLAQMTRCPEQEQRLQRLERLPELARVLRSVFVSERKPALSMEVACARMVGSCCTIMSPGEM EKHLLLSELLPDWLSLHRIRTDTYVKLDKAADLAHITARLAHQTRAEEGL

AGCCCGGGGCAGCCAGCAGTACCGGGCCCTGACCGTGCCCGAGCTCACCCAGCAGATGTTCGATGCCAAGAACAT
GATGGCGCCGCATGTCCATGAAGGAGGTGGACGAGCAGATGCTGGCCATCCAGAGCAAGAACAGCAGCTACTTCG
TGGAGTGGATCCCCAACAACGTGAAGGTGGCCGTGTGTGACATCCCGCCCCGCGGCCTCAAGATGTCCTCCACCT
TCATCGGGAACAGCACGGCCATCCAGGAGCTGTTCAAGCGCATCTCCGAGCAGTTCACGGCCATGTTCCGGCGCA
AGGCCTTCCTGCACTGGTACACGGGCGAGGGCATGGACGAGATGACGAGGTCACCGAGGCCGAGAGCAACATGAACG
ACCTGGTGTCCGAGTACCAGCAGTACCAGGACGCCCACGGCCGAGGAAGAGAGGGCAGATGTACGAAGACGACGAG
AGGAGTCGGAGGCCCAAGTGAAGCTGCTCGCAGCTGGAGTGAGAGGCAGGTGGCGCCGGGCCGAA
GCCAGCAGTGTCTAAACCCCCGGAGCCATCTTGCTGCCGACACCCTGCTTTCCCCTCGCCCTAGGGCTCCCTTGC
CGCCCTCCTGCAGTATTTATGGCC

MAVQGSQRRLLGSLNSTPTAIPQLGLAANQTGARCLEVSISDGLFLSLGLVSLVENALVVATIAKNRNLHSPMYC FICCLALSDLLVSGSNVLETAVILLLEAGALVARAAVLQQLDNVIDVITCSSMLSSLCFLGAIAVDRYISIFYAL RYHSIVTLPRARRAVAAIWVASVVFSTLFIAYYDHVAVLLCLVVFFLAMLVLMAVLYVHMLARACQHAQGIARLH KRQRPVHQGFGLKGAVTLTILLGIFFLCWGPFFLHLTLIVLCPEHPTCGCIFKNFNLFLALIICNAIIDPLIYAF HSQELRRTLKEVLTCSCSQDRALVSWDVKSLGGSVCQELLPQQPQEKGLCDQKASSTALQRLLQKEFWEVISDEH GIDPSGNYVGDSDLQLERISVYYNEASSHKYVPRAILVDLEPGTMDSVRSGAFGHLFRPDNFIFGQSGAGNNWAK GHYTEGAELVDSVLDVVRKECENCDCLQGFQLTHSLGGGTGSGMGTLLISKVREEYPDRIMNTFSVVPSPKVSDT VVEPYNATLSIHQLVENTDETYCIDNEALYDICFRTLKLATPTYGDLNHLVSATMSGVTTSLRFPGQLNADLRKL AVNMVPFPRLHFFMPGFAPLTARGSQQYRALTVPELTQQMFDAKNMMAACDPRHGRYLTVATVFRGRMSMKEVDE QMLAIQSKNSSYFVEWIPNNVKVAVCDIPPRGLKMSSTFIGNSTAIQELFKRISEQFTAMFRRKAFLHWYTGEGM DEMEFTEAESNMNDLVSEYQQYQDATAEEEGEMYEDDEEESEAQGPK

GCAGCACCATGAACTAAGCAGGACACCTGGAGGGGAAGAACTGTGGGGGACCTGGAGGCCTCCAACGACTCCTTCC TGCTTCCTGGACAGGACT<u>ATG</u>GCTGTGCAGGGATCCCAGAGAAGACTTCTGGGCTCCCTCAACTCCACCCCACA GCCATCCCCCAGCTGGGGCTGGCTGCCAACCAGACAGGAGCCCGGTGCCTGGAGGTGTCCATCTCTGACGGGCTC TTCCTCAGCCTGGGGCTGGTGAGCTTGGTGGAGAACGCGCTGGTGGTGGCCACCATCGCCAAGAACCGGAACCTG CACTCACCCATGTACTGCTTCATCTGCTGCCTGGCCTTGTCGGACCTGCTGGTGAGCGGGAGCAACGTGCTGGAG ACGGCCGTCATCCTCCTGCTGGAGGCCGGTGCACTGGTGGCCCGGGCTGCGGTGCTGCAGCAGCTGGACAATGTC ATTGACGTGATCACCTGCAGCTCCATGCTGTCCAGCCTCTGCTTCCTGGGCCGCCATCGCCGTGGACCGCTACATC TCCATCTTCTACGCACTGCGCTACCACAGCATCGTGACCCTGCCGCGGGCGCGCAAGCCGTTGCGGCCATCTGG GTGGCCAGTGTCGTCTTCAGCACGCTCTTCATCGCCTACTACGACCACGTGGCCGTCCTGCTGTGCCTCGTGGTC TTCTTCCTGGCTATGCTGGTGCTCATGGCCGTGCTGTACGTCCACATGCTGGCCCGGGCCTGCCAGCACGCCCAG GGCATCGCCCGGCTCCACAAGAGGCAGCGCCCGGTCCACCAGGGCTTTGGCCTTAAAGGCGCTGTCACCCTCACC ATCCTGCTGGGCATTTTCTTCCTCTGCTGGGGCCCCTTCTTCCTGCATCTCACACTCATCGTCCTCTGCCCCGAG CACCCCACGTGCGGCTGCATCTTCAAGAACTTCAACCTCTTTCTCGCCCTCATCATCTGCAATGCCATCATCGAC CCCCTCATCTACGCCTTCCACAGCCAGGAGCTCCGCAGGACGCTCAAGGAGGTGCTGACATGCTCCTGG<u>TGA</u>GCG GCAGTTCCTTACCTCCCTGGTCCCCGTTTGTCAAAGAGGATGGACTAAATGATCTCTGAAAGTGTTGAAG

MAVQGSQRRLLGSLNSTPTAIPQLGLAANQTGARCLEVSISDGLFLSLGLVSLVENALVVATIAKNRNLHSPMYC FICCLALSDLLVSGSNVLETAVILLLEAGALVARAAVLQQLDNVIDVITCSSMLSSLCFLGAIAVDRYISIFYAL RYHSIVTLPRARQAVAAIWVASVVFSTLFIAYYDHVAVLLCLVVFFLAMLVLMAVLYVHMLARACQHAQGIARLH KRQRPVHQGFGLKGAVTLTILLGIFFLCWGPFFLHLTLIVLCPEHPTCGCIFKNFNLFLALIICNAIIDPLIYAF HSQELRRTLKEVLTCSW

GCATAGGCTAGGTAGCGAGGCCGCGTGTGAATCGGCCGAGGCCGAGTTTCTGCGCTTCCTCTCTCCAG ${\tt ACGTCGTGGTCGTTCGGTCCT} \underline{{\tt ATG}} {\tt TCGCGCCCGGGCCCTCCGGAGGCTGAGGGGGGAACAGCGCGGCCAGGAGCCCC}$ CTCGGGCCCGGCGCCTTGCATTTCGATCTCCGTGATGACGATGACGCGGAAGAAGAAGAAGGGCCCAAGCGGGAGCTT GGTGTCCGGCGTCCCGGGGGCGCAGGGAAGGAGGGCGTCCGAGTCAACAACCGCTTCGAGCTGATAAACATTGAC GATCTTGAGGATGACCCTGTGGTGAACGGGGAGAGGTCTGGCTGTGCGCTCACAGACGCTGTGGCACCAGGGAAC AAAGGAAGGGTCAGCGTGGAAACACAGAGAGCAAGACGGATGGAGATGACACCGAGACAGTGCCCTCAGAGCAG GAAAACGGACTAGAAGATATCGATCGCATCCTAGAGAGGATTGAGGACAGCACTGGGTTGAACCGTCCCGGCCCA GCTCCCCTGAGCTCCAGGAAGCACGTTCTCTACGTGGAGCACAGACACTTGAATCCAGACACAGAACTGAAAAGG TATTTTGGTGCCCGGGCAATCCTGGGGGAGCAAAGGCCACGGCAGAGACAACGTGTGTACCCCAAGTGCACATGG CTGACCACCCTAAAAGCACCTGGCCCCGCTACAGCAAACCAGGTCTGTCCATGCGGCTGCTGGAATCAAAAAAA GGCCTCTCCTTCTTTGCGTTTGAGCACAGTGAGGAGTACCAGCAGGCTCAGCACAAGTTCCTGGTGGCCGTGGAG GCGTTCCACCCCTGTTCAGTCTCACCAGTGGGGCCTGCCGGCTGGATTACCGCAGACCCGAGAACAGGAGCTTC TACCTGGCCCTCTACAAGCAGATGAGCTTCCTGGAGAAGCGAGGCTGCCCGCGCACGGCGCTGGAGTACTGCAAG CTCATCCTGAGTCTCGAGCCGGATGAGGACCCCCTCTGCATGCTGCTGCTCATCGACCACCTGGCCTTGCGGGCC CGGAACTACGAGTACCTGATCCGCCTCTTCCAGGAGTGGGAGGCTCATCGGAACCTGTCCCAGCTCCCTAATTTT AGGCAGAAGGCCTCTCTCCTGATACAGCAGGCGCTCACCATGTTCCCTGGAGTCCTCCTGCCCCTGCTCGAGTCT GCCCTGAGCCAGCTGGTGAACCTGTACCTTGGGAGGTCACACTTTCTCTGGAAAGAGCCCGCCACCATGAGCTGG CTGGAGGAGACGTCCACGAGGTTCTGCAAGCAGTGGACGCCGGGGACCCAGCCGTGGAAGCCTGTGAGAACCGG CGGAAGGTGCTCTACCAGCGTGCACCCAGGAATATCCACCGCCATGTGATCCTCTCTGAGATCAAGGAAGCCGTC GCTGCCCTGCCCCGGACGTGACCACGCAGTCTGTGATGGGGTTTGATCCTCTGCCTCCTTCGGACACAATCTAC TCCTACGTCAGGCCAGAGAGGCTAAGTCCTATCAGCCATGGAAACACCATTGCTCTCTTCTTCCGGTCACTGTTG AGGCTGATGCTGGCGGGCGACATGATGGCCAACTTCCACCTCAACGACCTGGAGGCGCCGCACGAGGACGAC TCTGTTGGTCGGAGTCGGCCAGTTGCCTGAAGTAGGGAAGCTGAGTGTGTCGCTCCCTGGTCCACTGTTTCTCCT ATAAATGTAAATGGGTC

MSRRALRRLRGEQRGQEPLGPGALHFDLRDDDDAEEEGPKRELGVRRPGGAGKEGVRVNNRFELINIDDLEDDPV
VNGERSGCALTDAVAPGNKGRGQRGNTESKTDGDDTETVPSEQSHASGKLRKKKKKQKNKKSSTGEASENGLEDI
DRILERIEDSTGLNRPGPAPLSSRKHVLYVEHRHLNPDTELKRYFGARAILGEQRPRQRQRVYPKCTWLTTPKST
WPRYSKPGLSMRLLESKKGLSFFAFEHSEEYQQAQHKFLVAVESMEPNNIVVLLQTSPYHVDSLLQLSDACRFQE
DQEMARDLVERALYSMECAFHPLFSLTSGACRLDYRRPENRSFYLALYKQMSFLEKRGCPRTALEYCKLILSLEP
DEDPLCMLLLIDHLALRARNYEYLIRLFQEWEAHRNLSQLPNFAFSVPLAYFLLSQQTDLPECEQSSARQKASLL
IQQALTMFPGVLLPLLESCSVRPDASVSSHRFFGPNAEISQPPALSQLVNLYLGRSHFLWKEPATMSWLEENVHE
VLQAVDAGDPAVEACENRRKVLYQRAPRNIHRHVILSEIKEAVAALPPDVTTQSVMGFDPLPPSDTIYSYVRPER
LSPISHGNTIALFFRSLLPNYTMEGERPEEGVAGGLNRNQGLNRLMLAVRDMMANFHLNDLEAPHEDDAEGEGEW

ATGGTGACGCACGCCGCTGGCGCGAGGACCTTTTGTGAGGAGCAAAAGAAGGGATCCACCTATTCAGTTCCAAAA AGCCTCCACCGGGGGCCGGGACAGCCAAGCACCCGCCGCCGGCAGCTTCGCTGGAAGAAACCTGATGTAAAG CAAAAGTCCAGCAGGAAGAAAGTGGTCGTTCCACAGATCATCATCACGCGAGCGTCGAATGAGACGCTAGTCAGT TGCAGTTCCAGCGGGAGTGACCAGCAGAGAACCATTCGGGAGCCGGAGGACTGGGGCCCCTACCGGCGCACAGG AACCCCAGTACAGCAGACGCCTATAATTCACATCTCAAAGAA<u>TAA</u>ACAAGCACCTTTGCATGGCACTCGCTACTC CCTGCGATAGGCGTCTCGGGAACAGCCGCCTCACCCTGTGAGAAGCCGAGGCCCCTTCTCCAGTGCTCTCGGGGA GGTTGCACCAGGCCCACCCTGTGAGAAACTGCAGCCCCTTCTCCAGTGCTTTCGGGGAGGGTGCACCAG TGCAGCCCCTTCTCCAATGCTCTCGGGGAGGGTACACCAGGGTTGCCCCACCCTGTGAGAAGCCACCGCCCCCT TCTCCAGTGCTCTCGGGGAGGTGCACCAGGGCTGCCCCACGCTGTAAGAAGCCGCCGCCCCTTCTCCAGTGCT CTCCAGCCCGCCCCACCCTGTGAGAAGCCATGGCCCCTTCTCCAGTGCTTTTGGGGAGGGTGCACCAGGGCCACC GAAGCCGTGGCCCCTTCTCCCGTGCTCTCAGGGAGGGTGCACCAGGCCTGCCCCCGCCTTGAGAAACTGCAGCC CCCTTCTCCAGTGCTCTGGGGGAGGGTGCACCAGGCCTGCCACCCTGTGAGAAACTGCACCCCTTCTCCAGTG CTCTCGGGGAGGGTGCACCAGGCCCGCCCCACCCTGTGAGAAGCCGCAGCCCGTTCTCCATTGCCATTTGGTCCT TTGTGATTTGTGGTGCACAGTTAAAACACTTCCCTTCGTTTCAGAAGGAGACAATGTGAATACTTGGAAATTATA GTGAATAAGATGCCTCCCAAACTTGAGGAAAAGGTCAGATTCTAAGAGCTAAACGTTAAGATGTAATGTTCCAGA ACAAAGAGGCCCAGAGTCACTGAACGGGGCCCCAGGGCTCCTAGCTTGAGTGTAATCTGAGTCAGCTTATGAAAA GGCCCCAAAGAAGAAGTGGAATGTGTGCTGGGCACATGGGACAGCCATGGCACTGAGACTTTGGAAGTGGCCTT GCCAGCGCTGTCCTGTCTTTCTGGCCCACAGATGAGGGCCTCCTGATTGTGGAAGGCCACGGAAGGGACCTGAACA CGATGGCACGAGACAAGTTATCTCCTGTGACTGCTCCTCCAGCAACCCTCAGCTCAGGCTAGACTTTCCCCCT GTGTTGAGAATGCCCTGCCCTGTGTGGAAGCCTGATGCATTTAGTGACAGTGTGTTAGCTTTGTTAGTTTCTAGT GTCTTGGACACAGACTTCTGAGGTGGCAGCGGGAGGGAGCCTGCTCCCTGCCACACACGTACAATTTCTAATCCA TACAGGCCTATGTAGTATATACACACATACGCAGAGCCTTAGGAATTGTGAAAGGCCAATCAAAACTTGGGGCCC TAATTTCACTCTGCC

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 $\tt GTCCCCGCCGGGTGCAGCTTGGTCGGTTCGATCGCCGCGGGACCTGACACCGCCCGGAGTTGGCGTCCCTTCTC$ GCGGAGAAGGCTCCAAGGCGGAGCAGGCCAAAGTGAAGAAGGCCCTTCTGCAGAAAAATGTAGAGTGTGCCCGT GTGTATGCCGAGAACGCCATCCGCAAGAAGAACGAAGGTGTGAACTGGCTTCGGATGGCGTCCCGCGTAGACGCA GTGGCCTCCAAGGTGCAGACAGCTGTGACTATGAAGGGGGTGACCAAGAATATGGCCCAGGTGACCAAAGCCCTG GACAAGGCCCTGAGCACCATGGACCTGCAGAAGGTCTCCTCAGTGATGGACAGGTTCGAGCAGCAGGTGCAGAAC CTGGACGTCCATACATCGGTGATGGAGGACTCCATGAGCTCGCCCACCCTGACCACGCCGCAGGAGCAGGTG GCCTCTGCCGTGGGCGAGAGCTCTGTGCGCAGCCAGGAGGACCAGCTGTCACGGAGGTTGGCCGCCTTGAGGAAC TAGCCGTGCCCCGCGGTGTGCACCGCCTCTGCCCCGTGATGTGCTGGAAGGCTCCTGTCCTCTCCCCACCGCGT CTTGCCTTTGTGCTGACCCCGCGGGGCTGCGGCCGGCAGCCACTCTGCGTCTCTCACCTGCCAGGCCTGCGTGGC CTTAGGGTTGTTCCTGTTCTTTTAGGTTGGGCGGTGGGTCTGTGTCCTGGTGTTGAGTTTCTGCAAATTTCTGGG GGTGATTTCTGTGACTCTGGGCCCACAGCGGGGAGGCCAAGAGGGGCCCTGTGGACTTTCACCCAGCACTGTGGG GGCCTTCAGACTCTGGGGCAGCAGACATGCTGCTTCCCATCAGCCAGAGGGGGTCAGGGCTGCCCTGTTGCCAAA GCACCACAGGTCTATGTGTGCTGGGGGATGTCAGGTGCCACCCAACGCTGTCCTGGTGGTATTTACAATGACATC CCCTCACTTCCCTCAGTTCCCAAAGCTGCCCAGTCCATGGGGACAGAACCGTCACTCAGATCCACATTCAAGTGT GCCCACCCTGCAGTCTTCATCCTCACTCAGCTGCTGCCTCTGGAGGTGCCTTTGGCCACATGTGCTGTTTT GTCTCCTCGACAGGGAGCCTGTCCACCAGCAGGCTGCGGTCCCAGCGGGTGCGTCTGCAGCTCCTCCCCTTGGGC AGCCTGGTTCTCCCGGAGGACCTTTCCTTGGGGCCCTGCTTCATGACGATGCTGCCTGTGTCACCCTCTACCATC TGTAAACAACTGGGTGCCTTCCCCGACCACACCCCAATGCCTTCCCAGCTTGGAAGCCAAGGCAGCTGATGAAGG GAGCTCAGGAGAGCCGTCTTCAGCTGGGCTGGGGTTGGGGCTGCTGTGAGGAAAACCTGCCATTGTGGCCCTGGA GAGTCACCAGCAGCTCTTGGGAAGGACTTGCTGGGAGGCTGAGAGAGGCTTTGGGCACAGCCTGCTGTCTTTTCC ATTTCCTAAAGTTTACTTCATTGTCTTGAGGCTTCCAGGTTTTGTTTTTTGTCTTTTTGCCAAAGTAGAAAAGGCAGG TGGTGGGCGGCTGGCAGGGAGTGCGGGTCCCCGCCCCTCTTCAGTCCTGCCCTCCTCCTCAGTCCTGCCCACC $\tt CCGTGCAGCCCATGCTGAGGCTGCAGTGGTGTCGTGGGTGTTACGTGCAGGAACGTGGAGACCCTGACGTGGGCT$ TCCCTCCAGCCTCCCCAAAATCAACCCTGGTGTTGAGAGAACGTCCTTCTGTCCATCGTGGGTAACAGCCTTGGG GAGGGTGCAGAGCTCTGCAGAGCCATGGGCCAGGTGGGGCTGCCTCAGTCCTGTCCCCTTGGGCACTGAGGAGAG

MAPSRNGMVLKPHFHKDWQRRVATWFNQPARKIRRRKARQAKARRIAPRPASGPIRPIVRCPTVRYHTKVRAGRG FSLEELRVAGIHKKVARTIGISVDPRRRNKSTESLQANVQRLKEYRSKLILFPRKPSAPKKGDSSAEELKLATQL TGPVMPVRNVYKKEKARVITEEEKNFKAFASLRMARANARLFGIRAKRAKEAAEQDVEKKK

 $\tt CTGGGTCCTGGCCTTTGGGCATCATCCAGCGCCATCGGCCTTCAGCCAACGCGGGAGTGGATGGGCCCC$ TTCTTCTTCGCAGACAGCGTTCGGCCGCTGCCCGGGCTCTAGGCGCGGCCGGACGGCCCAGTCTGGAGGGTTCGG GGCGGAGGCCGGGGGGGGTCCGCCCCGGGGTCCGGCCTCTCACTCGCTCCCCTCTCGTCCGCAGCCGCAGGG GTGGCCACGTGGTTCAACCAGCCGGCCCGTAAGATCCGCAGACGTAAGGCCCGGCAAGCCAAGGCGCGCCGCATC GCCCGGGCCCCGCGTCGGGTCCCATCCGGCCCATCGTGCGCTGCCCCACGGTTCGGTACCACACGAAGGTGCGC GCCGGCCGCGCTTCAGCCTGGAGGAGCTCAGGGTGGCCGGCATTCACAAGAAGGTGGCCCGGACCATCGGCATT TCTGTGGATCCGAGGGGGGACAAGTCCACGGAGTCCCTGCAGGCCAACGTGCAGCGGCTGAAGGAGTACCGC TCCAAACTCATCCTCTTCCCCAGGAAGCCCTCGGCCCCCAAGAAGGGAGACAGTTCTGCTGAAGAACTGAAACTG GCCACCCAGCTGACCGGACCGGTCATGCCCGTCCGGAACGTCTATAAGAAGGAGAAAGCTCGAGTCATCACTGAG GAAGAGAATTTCAAAGCCTTCGCTAGTCTCCGTATGGCCCGTGCCAACGCCCGGCTCTTCGGCATACGGGCA AAAAGAGCCAAGGAAGCCGCAGAACAGGATGTTGAAAAAGAAAAAAATAAAGCCCTCCTGGGGACTTGGAATCAGTC GGCAGTCATGCTGGGTCTCCACGTGGTGTTTTCGTGGGAACACTGGGCCTGGGATGGGGCTTCACTGCTGTGA CTTCCTCCTGCCAGGGGATTTGGGGCTTTCTTGAAAGACAGTCCAAGCCCTGGATAATGCTTTACTTTCTGTGTT GAAGCACTGTTGGTTGTTTGGTTAGTGACTGTAAAACGGTTTTCTTGTGGGGAGGTTACAGAGGCTGACTTC AGAGTGGACTTGTGTTTTTTCTTTTTAAAGAGGCAAGGTTGGGCTGGTGCTCACAGCTGTAATCCCAGCACTTTG AGGTTGGCTGGGAGTTCAAGACCAGCCTGGCCAACATGTCAGAACTACTAAAAATAAAGAATCAGCCATGAAAA ΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑ

MAPSRNGMVLKPHFHKDWQRRVATWFNQPARKIRRRKARQAKARRIAPRPASGPIRPIVRCPTVRYHTKVRAGRG FSLEELRVAGIHKKVARTIGISVDPRRRNKSTESLQANVQRLKEYRSKLILFPRKPSAPKKGDSSAEELKLATQL TGPVMPVRNVYKKEKARVITEEEKNFKAFASLRMARANARLFGIRAKRAKEAAEQDVEKKK

CCATCGTATCCTGTCAGACACGTCGGACGAGGAGGACGCGAGTGTCACCGTGGGGACAGGAGAAGCTGAGACT AGTGAAAAAGAAGCGAAAGAAAAAAAAAAAAGGCAGAGAGGTTCGCTTCGGAAAGCGGAGCGACAAGTTCTGCTC CTCGGAGTCGGAGAGCGAGTCCTCAGAGAGTGGGGAGGATGACAGGGACTCTCTGGGGAGCTCTGGCTGCCTCAA GGGGTCCCCGCTGGTGCTGAAGGACCCCTCCCTGTTCAGCTCCCTCTCTGCCTCCTCCACCTCGTCTCACGGGAG CATTTCTTCCCCGGCTTGGTCAGAGGTCAGTTCTTTATCAGACTCCACAAGGACGAGACTGACAAGCGAGTCTGA CTACTCCTCTGAGGGCTCCAGTGTGGAATCGCTGAAGCCAGTGAGGAAGAGGCAGGAGCACAGGAAGCCGAGCCTC $\verb|CCTGTCGGAGAAGAAGAGCCCCTTCCTGTCCAGCGCGGAGGGCGCTGTCCCCAAACTGGACAAGGAGGGGAAAGT| \\$ TGTCAAAAACATAAAACAAAACACAAAACACAAAAAACAAGGAGAGGGACAGTGTTCCATCAGCCAAGAGCTGAA GTTGAAAAGTTTTACTTACGAATATGAGGACTCCAAGCAGAAGTCAGATAAGGCTATACTGTTAGAGAATGATCT TTCCACTGAAAACAAGCTAAAAGTGTTAAAGCACGATCGCGACCACTTTAAAAAAAGAAGAAGAAACTTAGCAAAAT GAAATTAGAAGAAAAGAATGGCTCTTTAAAGATGAAAAATCACTGAAGAGAATCAAAGACAAAACAAAGACAT CAGCAGGTCTTTCCGAGAAGAGAAAGACCGTTCGAATAAAGCAGAAAAGGAGAGATCGCTGAAGGAAAAGTCTCC GAAGAATGATTTAAAAGAGGACAAAATTTCAAAAGAGAAGGAGAAGATTTTTAAAGAAGATAAAGAAAACTCAA AAAAGAAAAGGTTTATAGGGAAGATTCTGCTTTTGACGAATATTGTAACAAAAATCAGTTTCTGGAGAATGAAGA CACCAAATTTAGCCTTTCTGACGATCAGCGAGATCGGTGGTTTTCTGACTTGTCCGATTCATCCTTTGATTTCAA ${\tt AGGGGAGGACAGCTGGCCAGTGACAGACTACAGGGACATGAAGAGCGACTCTGTGGCCAAGCTCATCTT}$ GGAGACGGTGAAGGAGGACAGCAAGGAGAGGAGGGGGGGACAGCCGGGCCCGGGAGAAGCGAGACTACAGAGAGCC CTTCTTCCGAAAGAAGAACACGGACTATTTGGATAAAAACTCTGAGAAGAGGAAAGAGCAGACTGAAAAGCATAA AAGTGTCCCTGGCTACCTTTCGGAAAAGGACAAGAAGAGGAGAGGTCCGCAGAGGCCCGGGCGGACAGAAAGGA GTGTGGCTGCGAGAGTGGCTTCAAGGACAAGTCCGACGGCGACTTTGGGAAGGGCCTGGAGCCGTGGGAACGGCA GTCTCTCGACCAAGGGAAAGAAGAAGGAGAAGGCTTTCCCTGGGATCATCTCAGAAGACTTCTCTGAAAAAAA AGATGACAAGAAAGGCAAAGAGAAAAGCTGGTACATCGCAGACATCTTCACAGATGAGAGTGAGGACGACAGAGA GGAAGGACGGGAGGCCTATGCCTCCGACAGACACAGGAAGTCTTCTGACAAGCAGCACCCTGAGAGGCAGAAGGA CACGCAAGATAAGAAAAATAAACAGAAGCTCCCCGAGAAGGCTGAAAAGAAGCACGCTGCCGAAGACAAGGCTAA AAGCAAACACAAAGAAGTCGGACAAAGAACATTCCAAGGAGGAAGTCCTCGAGAAGTGCCGACGCGGAAAA AAGCCTGCTTGAAAAAGTTGGAAGAAGAGGCTCTCCATGAGTACAGAGAAGACTCCAACGATAAAATCAGCGAGGT CTCCTCTGACAGCTTCACGGACCGAGGGCAGGAGCCGGGGCTGACTGCCTTCCTGGAGGTCTCTTTCACGGAGCC AGATTACAAGGAGGGCGGTAGCAGGAAGGACTCCGGCCAGTACGAAAAGGACTTCCTGGAGGCGGATGCTTACGG AGTTTCTTACAACATGAAAGCTGACATAGAAGATGAGCTAGATAAAACCATTGAATTGTTTTCTACCGAAAAGAA AGATAAAAATGATTCCGAGAGAGAACCTTCCAAG

PCT/US2003/028547

5024/6881 FIGURE 4638

ACTTGCGCTGTCACTCAGCCTGGACGCGCTTCTTCGGGTCGCGGGTGCACTCCGGCCCGGCTCCGGCCC $\texttt{CG} \underline{\textbf{ATG}} \textbf{GACGCCGCGTTCCTCGTCCTCGGGCTGTTTGGCCCAGAGCCTCTGCCTGTCTTTGGGGGGTTCCTGGAT}$ GGAGGAGGCCCACCACCCTGTACCCCTGGCGCCGGGCGCCTGCCCTGAGCCGCGTGCGGAGGGCCTGGGTCATCC CCCCGATCAGCGTATCCGAGAACCACAAGCGTCTCCCCTACCCCTGGTTCAGATCAAGTCGGACAAGCAGCAGC ${\tt TGGGCAGCGTCATCTACAGCATCCAGGGACCCGGCGTGGATGAGGAGCCCCGGGGGCGTCTTCTCTATCGACAAGT}$ TCACAGGGAAGGTCTTCCTCAATGCCATGCTGGACCGCGAGAAGACTGATCGCTTCAGGCTAAGAGCGTTTGCCC ${\tt TGGACCTGGGAGGATCCACCCTGGAGGACCCCACGGACCTGGAGATTGTAGTTGTGGATCAGAATGACAACCGGC}$ CAGCCTTCCTGCAGGAGGCGTTCACTGGCCGCGTGCTGGAGGGTGCAGTCCCAGGCACCTATGTGACCAGGGCAG AGGCCACAGATGCCGACGACCCCGAGACGGACAACGCAGCGCTGCGGTTCTCCATCCTGCAGCAGGGCAGCCCCG AGCTCTTCAGCATCGACGAGCTCACAGGAGAGATCCGCACAGTGCAAGTGGGGCTGGACCGCGAGGTGGTCGCGG ${\tt TGTACAATCTGACCCTGCAGGTGGCGGACATGTCTGGAGACGGCCTCACAGCCACTGCCTCAGCCATCATCACCC}$ TTGATGACATCAATGACAATGCCCCCGAGTTCACCAGGGATGAGTTCTTCATGGAGGCCATAGAGGCCGTCAGCG GAGTGGATGTGGGACGCCTGGAAGTGGAGGACAGGGACCTGCCAGGCTCCCCAAACTGGGTGGCCAGGTTCACCA TCCTGGAAGGCGACCCCGATGGGCAGTTCACCATCCGCACGGACCCCAAGACCAACGAGGGTGTTCTGTCCATTG TGAAGGCCCTGGACTATGAGAGCTGTGAACACTACGAACTCAAAGTGTCGGTGCAGAATGAGGCCCCGCTGCAGG CGGCTGCCCTTAGGGCTGAGCGGGGCCAAGGTCCGCGTGCATGTGCAGGACACCAACGAGCCCCCGTGT TCCAGGAGAACCCACTTCGGACCAGCCTAGCAGAGGGGGCACCCCCAGGCACTCTGGTGGCCACCTTCTCTGCCC GGGACCCTGACACAGAGCAGCTGCAGAGGCTCAGCTACTCCAAGGACTACGACCCGGAAGACTGGCTGCAAGTGG ACGCAGCCACTGGCCGGATCCAGACCCAGCACGTGCTCAGCCCGGCGTCCCCCTTCCTCAAGGGCGGCTGGTACA GAGCCATCGTCCTGGCCCAGGATGACGCCTCCCAGCCCCGCCACCGGCACCCTGTCCATCGAGATCCTGG AGGTGAACGACCATGCACCTGTGCTGGCCCCGCCGCCGGGCAGCCTGTGCAGCGAGCCACACCAAGGCCCAG GCCTCCTCCTGGGCGCCACGGATGAGGACCTGCCCCCCACGGGGCCCCCTTCCACTTCCAGCTGAGCCCCAGGC TCCCCGAAGGCCTGCACCGCCTCAGCCTGCTCCTGCTCGGGGCAGCCGCCCCCAGCAGCAGCAGCCTC $\tt CGACAGCGCTGAGCCTCTGGGACCGCCGCCACTTCGCAGAGATGCCCCGCAGGGCCGCCTGCACCCCCAGC$ CACCCCGAGTGCTGCCCACCAGCCCCTGGACATCGCCGACTTCATCAATGATGGCTTGGAGGCTGCAGATAGTG ACCCCAGTGTGCCGCCTTACGACACCCCTCATCTATGACTACGAGGGTGACGGCTCGGTGGCGGGGACGCTGA GCTCCATCCTGTCCAGGCCAGGGCGATGAGGACCAGGACTACCAGAGACTGGGGGGCCCCGCTTCGCCC TTTCTCCTGGGGCACTGCTACCCAGACACAGAGGCCGGACAGCCTGACCCTGGGGCCCAACTGGACATGCCACTC AGCCTCCTTCCTGTAGGCGAGGGCCCAAGTCTGGGGGCAGAACCTGAGTGTGGATGGGGCGGCCAGGAAGAGGCC $\tt CCTTCCTGCCGGGGTGGGAAGAGTTTCTCTCCATCGGCCCCATGCGGGTCACCTCCCTAGTCCCACCTTTGCCTC$ TTTCATGCAAAAAAAAAAAAAAA

MDAAFLLVLGLLAQSLCLSLGVPGWRRPTTLYPWRRAPALSRVRRAWVIPPISVSENHKRLPYPLVQIKSDKQQL
GSVIYSIQGPGVDEEPRGVFSIDKFTGKVFLNAMLDREKTDRFRLRAFALDLGGSTLEDPTDLEIVVVDQNDNRP
AFLQEAFTGRVLEGAVPGTYVTRAEATDADDPETDNAALRFSILQQGSPELFSIDELTGEIRTVQVGLDREVVAV
YNLTLQVADMSGDGLTATASAIITLDDINDNAPEFTRDEFFMEAIEAVSGVDVGRLEVEDRDLPGSPNWVARFTI
LEGDPDGQFTIRTDPKTNEGVLSIVKALDYESCEHYELKVSVQNEAPLQAAALRAERGQAKVRVHVQDTNEPPVF
QENPLRTSLAEGAPPGTLVATFSARDPDTEQLQRLSYSKDYDPEDWLQVDAATGRIQTQHVLSPASPFLKGGWYR
AIVLAQDDASQPRTATGTLSIEILEVNDHAPVLAPPPPGSLCSEPHQGPGLLLGATDEDLPPHGAPFHFQLSPRL
PELGRNWSLSQVNVSHARLRPRHQVPEGLHRLSLLLRDSGQPPQQREQPLNVTVCRCGKDGVCLPGAAALLAGGT
GLSLGALVIVLASALLLLVLVLLVALRARFWKQSRGKGLLHGPQDDLRDNVLNYDEQGGGEEDQDAYDISQLRHP
TALSLPLGPPPLRRDAPQGRLHPQPPRVLPTSPLDIADFINDGLEAADSDPSVPPYDTALIYDYEGDGSVAGTLS
SILSSQGDEDQDYDYLRDWGPRFARLADMYGHPCGLEYGARWDHQAREGLSPGALLPRHRGRTA

TGGGAGGTTGGGGTCTCTGGGAGCTCTGCAGGCCCCAGCACCCGCAGAGCAGACACTGCGATGACAACGGACGAC ACAGAAGTGCCCGCTATGACTCTAGCACCGGGCCACGCCGCTCTGGAAACTCAAACGCTGAGCGCTGAGACCTCT TCTAGGGCCTCAACCCCAGCCGGCCCCATTCCAGAAGCAGAGACCAGGGGAGCCAAGAGAATTTCCCCTGCAAGA GAGACCAGGAGTTTCACAAAAACATCTCCCAACTTCATGGTGCTGATCGCCACCTCCGTGGAGACATCAGCCGCC AGTGGCAGCCCGAGGGAGCTGGAATGACCACAGTTCAGACCATCACAGGCAGTGATCCCGAGGAAGCCATCTTT GACACCCTTTGCACCGATGACAGCTCTGAAGAGGCAAAGACACTCACAATGGACATATTGACATTGGCTCACACC TCCACAGAAGCTAAGGGCCTGTCCTCAGAGAGCAGTGCCTCTTCCGACGGCCCCCATCCAGTCATCACCCCGTCA CGGGCCTCAGAGAGCAGCGCCTCTTCCGACGGCCCCCATCCAGTCATCACCCCGTCACGGGCCTCAGAGAGCAGC GCCTCTTCCGACGGCCCCCATCCAGTCATCACCCCGTCATGGTCCCCGGGATCTGATGTCACTCTCCTCGCTGAA GCCCTGGTGACTGTCACAAACATCGAGGTTATTAATTGCAGCATCACAGAAATAGAAACAACAACTTCCAGCATC CCTGGGGCCTCAGACATAGATCTCATCCCCACGGAAGGGGTGAAGGCCTCGTCCACCTCCGATCCACCACCTCTG CCTGACTCCACTGAAGCAAAACCACACATCACTGAGGTCACAGCCTCTGCCGAGACCCTGTCCTCAGCCCTCTCT GTTGAGACACCAAGTTACGTCAAAGTCTCAGGAGCAGCTCCGGTCTCCATAGAGGCTGGGTCAGCAGTGGGCAAA ACAACTTCCTTTGCTGGGAGCTCTGCTTCCTCCTACAGCCCCTCGGAAGCCGCCCTCAAGAACTTCACCCCTTCA ACTACAACCAACAGCAGCCGAGGGACCAACACCTTAGCCAAGATCACAACCTCAGCGAAGACCACGATGAAG CCCCCAACAGCCACGCCCACGACTGCCCGGATCGAGGCCGACCACAGACGTGAGTGCAGGTGAAAATGGAGGTTT $\verb|CCTCCTCCTGCGGCTGAGTGTGGCTTCCCCGGAAGACCTCACTGACCCCAGAGTGGCAGAAAGGCTGATGCAGCA|\\$ GCTCCACCGGGAACTCCACGCCCCACGCGCCTCACTTCCAGGTCTCCTTACTGCGTGTCAGGAGAGGGCTAACGGAC ATCAGCTGCAGCCAGGCATGTCCCGTATGCCAAAAGAGGGTGCTGCCCCTAGCCTGGGCCCCCACCGACAGACTG CAGCTGCGTTACTGTGAGAGGTACCCAGAAGGTTCCCATGAAGGGCAGCATGTCCAAGCCCCTAACCCCAGA CCTTGGACTCACCTTGGCACATGTTCTGTGTTTCAGTAAAGAGAGACCTGATCACCCATCTGTGTGCTTCCATCC TGCATTAAAATTCACTCAGTGTGGCCCAG

CAGAGGCTGGGAGGCGGCAGAATGCAGCCAGAGGAGGGCACAGGCTGCTGCTGGAGCTGCTGCAGGTGCAG CTGCAACAGTACTTCCTGCGGCTCCGAGATGACCTCAACGTCACCCGCCTGTCCCACTTTGAGTACGTCAAGAAT GAGGACCTGGAGAAGATCGGCATGGGTCGGCCTGGCCAGCGGCGGCTGTGGGAGGCTGTGAAGAGGAGGAAGGCC GGGGTGGTGCTCACGCCGCCCATGAAGATGGTGACAGAGCTGGCACCTCTGGGATCGTTGTTGGACCGGCTACGT AAGCACCAGGGCCACTTCCTCCTGGGGACTCTGAGCCGCTACGCTGTGCAGGTGGCTGAGGGCATGGGCTACCTG GAGTCCAAGCGCTTTATTCACCGTGACCTGGCTGCCCGCAATCTGCTGTTGGCTACCCGCGACCTGGTCAAGATC GGGGACTTTGGGCTGATGCGAGCACTACCTCAGAATGACGACCATTACGTCATGCAGGAACATCGCAAGGTGCCC TTCGCCTGGTGTGCCCCCGAGAGCCTGAAGACACGCACCTTCTCCCATGCCAGCGACACCTGGATGTTCGGGGTG ACACTGTGGGAAATGTTCACCTACGGCCAGGAGCCCTGGATCGGCCTCAACGGCAGTCAGATCCTGCATAAGATC GACAAGGAGGGGGAGCGCCCGGCCCGAGGACTGTCCCCAGGACATCTACAACGTCATGGTCCAGTGCTGG GCTCACAAGCCAGAGGACAGACCCACGTTTGTGGCCCTGCGGGACTTCCTGCTGGAGGCCCAGGCCCACAGACATG GACAGTGACCCCCGCCACTGCTGGGGCTTCCCGGACAGGATTGACGAACTGTATCTGGGAAACCCCATGGACCCC GACCCTGTGAGCGAGGACCAAGACCCCTTGTCCAGCGACTTCAAGAGGCTGGGCCTGCGGAAGCCAGGCCTGCCC CGAGGGCTGTGGCTGGCGAAGCCCTCGGCGCGGGTGCCGGGCACCAAGGCCAGCCGAGGCAGCGGGGCTGAGGTC ATGGACGCCTGCTCCCTGCTGGACGAGACCCCGCCTCAGAGCCCCACGCGGGCACTGCCCCGGCCCCTGCACCCC GGGGGCAAGCCGCCAGCTCCGCACAGACCGCAGAGATCTTCCAGGCGCTACAGCAGGAGTGCATGAGGCAACTG CAGGCTCCGGCCGGCCCCCTCTCCCAGCCCGGGGGGTGACGACAAGCCCCAGGTGCCTCCTCGGGTA TGGCCTGGACCTGCTTCCCCTCCCGGGTGCCTCCGCGGGAGCCCCTGTCCCCTCAAGGCTCGAGGACACCCAGC CCCCTGGTACCACCTGGCAGCTCCCCGCTGCCACCCGGCTCTCAAGCTCACCTGGGAAGACCATGCCCACCACC CAGAGCTTTGCCTCAGACCCCAAGTACGCCACCCCCAGGTGATCCAGGCCCCTGGCCCGCGGGCTGGTCCCTGC TCCTACCTGGAGCTGCTACCAGCGCTTCCTGCGTGAGTGCCAGAGCCCCGATGAGCCTACC

GCGGAGCGAGAGGCTGAGAGAGTCGGAGACACTATCCGCTTCCATCCGTCGCGCAGACCCTGCCGGAGCCGCTGC CGCT<u>ATG</u>GATGATCGAGAGGATCTGGTGTACCAGGCGAAGCTGGCCGAGCAGGCTGAGCGATACGACGAAATGGT AGGAGAAGACAAGCTAAAAATGATTCGGGAATATCGGCAAATGGTTGAGACTGAGCTAAAGTTAATCTGTTGTGA CATTCTGGATGTACTGGACAAACACCTCATTCCAGCAGCTAACACTGGCGAGTCCAAGGTTTTCTATTATAAAAT AGTGGCTTATAAAGCTGCTAGTGATATTGCAATGACAGAACTTCCACCAACGCATCCTATTCGCTTAGGTCTTGC TCTCAATTTTTCCGTATTCTACTACGAAATTCTTAATTCCCCTGACCGTGCCTGCAGGTTGGCAAAAGCAGCTTT TGATGATGCAATTGCAGAACTGGATACGCTGAGTGAAGAAAGCTAŤAAGGACTCTACACTTATCATGCAGTTGTT ACGTGATAATCTGACACTATGGACTTCAGACATGCAGGGTGACGGTGAAGAGCAGAATAAAGAAGCGCTGCAGGA CGTGGAAGACGAAAATCAGTGAGACATAAGCCAACAAGAGAAACCATCTCTGACCACCCCCTCCTCCCCATCCCA CCCTTTGGAAACTCCCCATTGTCACTGAGAACCACCAAATCTGACTTTTACATTTGGTCTCAGAATTTAGGTTCC TGCCCTGTTGGTTTTTTTTTTTTTTTTTTAAACAGTTTTCAAAAGTTCTTAAAGGCAAGAGTGAATTTCTGTG GATTTTACTGGTCCCAGCTTTTAGGTTCTTTAAGACACTAACAGGACTACATAGAGGCTTTTTCAGCATTACTGT GTCGTCTCCGTGCCAGATGTGGCAAGATCACCATTAGCAAATGGAAATTACATTTGAAAGCCATTAGACTTATAG GTGATGCAAGCATCTAAGAGAGGGTTAATCACACTATAGAGGCATAAGTGGTATCAGTTTTCATTTTCTAATT GTTTAAACTGTGTTTTATACCAGTGTTTGCAAGTAATTGGGTGTTAGCTTGAGATGGTTAAAGGTGGTTTGGGGA GGGACTTCGTTGTAATGGTTTTGCTGTAAAAAATGTTTCCAACTCCGCTGAAATGTTGCTGAAAAGCATGGTGCT GGTAACAGTTCAACAATCCGTGGCTGCTCATTCTTGCCTACTTTACTCTCCCACTGAAGCAGGTTAGCGTTGAAG GTGGTATGGAAAAGCCTGCATGCCTGTTCAATTCTTTTGTTTCTTCTCCTCCCCCTCCCCCTACCTCCTTCCCC TCACTCCTCCCTCCTCGCTCGCTCAACCTCTTTTGTTCAGTATGTGTAACTTGAAGCTAATTTGTACTACTGG ATATCTGACTGGAGCCACAGATACAGAATCTGTATTGTTCTTACTGAAACACAGCATGGAATTAACATTAAACTT

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5029/6881 FIGURE 4643

MDDREDLVYQAKLAEQAERYDEMVESMKKVAGMDVELTVEERNLLSVAYKNVIGARRASWRIISSIEQKEENKGG EDKLKMIREYRQMVETELKLICCDILDVLDKHLIPAANTGESKVFYYKMKGDYHRYLAEFATGNDRKEAAENSLV AYKAASDIAMTELPPTHPIRLGLALNFSVFYYEILNSPDRACRLAKAAFDDAIAELDTLSEESYKDSTLIMQLLR DNLTLWTSDMQGDGEEQNKEALQDVEDENQ

5030/6881 FIGURE 4644A

 ${\tt TCGGGTTTCGGATCTGACCGAGCCGCCGCGCGGGATGGAGCCGCTCAGCCACCGGGGCCTGCCGCGCCTGTCCT}$ GGCCCCCGGAGGGCTCAGAGACCATGCCGTACATCGATGAGTCGCCCACCATGTCCCCGCAGCTCAGCGCCCGCA GCCAGGGCGGGGGGATGGCGTCTCCCCGACTCCACCTGAGGGACTGGCTCCTGGGGTGGAAGCAGGGAAAGGCC TGGAGATGAGGAAGCTGGTTCTCTCGGGGTTCTTGGCCAGCGAAGAGATCTACATTAACCAGCTGGAAGCCCTGT TCTTCTACAAGATCCAGGACATCTATGAGATCCACAAGGAGTTCTATGACAACCTGTGCCCCAAGGTGCAACAGT ATAACTATAAAGTCGCTCTGGAGACAGCTGAGAAGTGCAGCCAGTCCAACAACCAGTTCCAGAAGATCTCAGAGG AACTCAAAGTGAAAGGTCCCAAGGACTCCAAGGACAGCCACGTCTGTCACCATGGAAGCTCTGCTCTACAAGC CCATTGACCGGGTCACTCGGAGCACCCTAGTCCTACACGACCTGCTGAAGCACACCTGTGGACCACCCCGACT ACCCGCTGCTGCAGGATGCCCTCCGCATCTCCCAGAACTTCCTGTCCAGCATCAACGAGGACATCGACCCCCGCC GGACTGCAGTGACAACGCCCAAGGGGGAGACGCGACAGCTGGTGAAGGACGGCTTCCTGGTGGAAGTGTCAGAGG CCTCCCGGAAGCTGCGGCACGTCTTCCTCTTTACAGATGTCCTACTGTGTGCCAAGCTGAAGAAGACCTCTGCAG GGAAGCACCAGCAGTATGACTGTAAGTGGTACATCCCCCTGGCCGACCTGGTGTTTCCATCCCCCGAGGAATCTG AGGCCAGCCCCAGGTGCACCCCTTCCCAGACCATGAGCTGGAGGACATGAAGATGAAGATCTCTGCCCTCAAGA GTGAAATCCAGAAGGAGAAAGCCAACAAAGGCCAGAGCCGGGCCATCGAGCGCCTGAAGAAGAAGATGTTTGAGA ATGAGTTCCTGCTGCTCCAACTCCCCCACAATCCCGTTCAGGATCCACAATCGGAATGGAAAGAGTTACCTGT TCCTACTGTCCTCGGACTACGAGAGGTCAGAGTGGAGAAGCAATTCAGAAACTACAGAAGAAGGATCTCCAGG CCTTTGTCCTGAGCTCAGTGGAGCTCCAGGTGCTCACAGGATCCTGTTTCAAGCTTAGGACTGTACACAACATTC AAACCAGGGTGTTCCGGGACACAGCGGAGCCCAAGTGGGGATGAGGAGTTTGAGATCGAGCTGGAGGGCTCCCAGT CCCTGAGGATCCTGTGCTATGAGAAGTGCTATGACAAGACCAAGGTCAACAAGGACAACAATGAGATCGTGGACA AGATCATGGGCAAAGGACAGATCCAGCTGGACCCACAAACCGTGGAGACCAAGAACTGGCACACGGACGTGATTG AGATGAACGGGATCAAAGTGGAATTTTCCATGAAATTCACCAGCCGAGATATGAGCCTGAAGAGGACCCCGTCCA AAAAGCAGACCGGCGTCTTCGGTGTGAAGATCAGCGTGGTGACGAAGCGGGAGCGCTCCAAGGTGCCCTACATCG ${\tt TCCGGCAGTGTGGAGAGGGGGAGAGAGGGGGTATCGAGGAGGTTGGCATCTACAGGATATCGGGCGTGGCCA}$ CGGACATCCAGGCGCTCAAGGCCGTCTTCGATGCCAATAACAAGGACATCCTGCTGATGCTGAGTGACATGGACA TCAACGCCATCGCCGGGACGCTCAAGCTGTACTTCCGGGAACTGCCCGAGCCGCTCCTCACGGACCGACTCTACC CAGCCTTCATGGAGGGCATCGCCCTGTCAGACCCTGCTGCCAAGGAAAACTGCATGATGCACCTGCTCCGCTCCC TGCCCGACCCCAACCTCATCACCTTCCTCCTGCTGGAACACTTGAAAAGGGTTGCCGAGAAGGAGCCCATCA ACAAAATGTCACTTCACAACCTGGCTACCGTGTTTGGACCCACGTTACTGAGACCCTCAGAAGTGGAGAGCAAAG CACACCTCACCTCGGCTGCGGACATCTGGTCCCATGACGTCATGGCGCAGGTCCAGGTCCTCCTCTACTACCTGC AGCACCCCCCATTTCCTTCGCAGAACTCAAGCGGAACACACTGTACTTCTCCACCGACGTGTAGCCCGAGGCAG GGTGGCTGCGGGCGGGTGGTGGAACCAGCCCTCCAGCCTGGGGTCCAACTCAGACTTGAAAGACTGCAATAGAA AACTCCCAAACCCAGCACTCCAGACTCGAGGGAAGCCAGCTTCCAAGAACTGGAATGCGTACGTCTTTTGTGCCA CCTTGTACAAAGCCGGCTGCCCAGCCCCAGCCTCACCACCGCATCCCACCTCCTGCCCTCCATACCTCTAGTTGT GTCTGATGCTCCGTGCTGTTCGGGAATTGTTTTATGTACACTTGTCAGGCAGAAAAGGTAGTGACCGGCCCGGCG TTTTATTTTGCGCTGTGAACTGCTGCCAGCTTCTCTTGGCCCTGCTCCCAGATGGCGGTCTCCTGGCAGCCTCC CCTTGAAAGCTCTGAAGAGGCCCTGGGTTGCCGCGGCAGCAGTGGTCTGTTTGATGCTGCCGTTTGCCGCTGCCG GCCCCTCCTCAGACTCCGCCTTTGGGAGCACACCTGCTTTGCCTTGCTGCCAAATGTTGGACAAGCAGAC ${\tt ACACTCACACTCGTCCCCAGCTTAGCACAGAGCTGGAGCGCCCATTTCTGGAATTTTCCGTTTGGGAATCTCCAC}$ TTCTGGGGTTTACCTGTTCGGCCTCCTGCCTATCAGTGAGGCATCTCTGACTGTTTCTTCTACTGCTTTTCAGTT CCCTTCCCTGCTGTTCTATTTCCTTTGAGTGTAAAGACTCACAGGTGACCTGCTATCGAGATAGCCAGAGGGTCA

5031/6881 FIGURE 4644B

GGAGAGAATGGGGGAGGAGGCGGTCAGGCTGCTGAGGAAACACCACAGGCTGAACGGGGGAGGAATGCACATGCC TGGGTAAACACTGGGAACTCCAGAAGTTGTGGGGAGAGTGGGGAATCAGACAGCCGCCTCTAGGGGCTGGGTTCT GCTGGGGCCTCCTTGTTGGTGCTGTAGGCACCCGCCAGGGAGCAGGGACCCGACTTGCAGACGCATTGCCCGGTA CTAGGAAGGAGTGAGTTCCCACCGTACACTTCCCACACGAGCTGCGGCTGCCAGCCTCGGGCCATCAGCC TAGGAGAGCAGATGCAGCTCCAGGGGCTCGACTTATAGCCAGTTACAGCTCCCCGGCTCTTCTGTGTGGCAGAGC GTCGTTTCCGGGCCCTCAGGGCTGGGGAGCTCAGTTCCCATTGCTTGTGCTCAGGGCTGAGTCTTAAAGAAGGGT TTGCCGGCCCTAACGCTGCAGCGCGTGCGCGGAGAGAGGCCCTTTTTGAGCCTGTTTACTCCTGTGGCCTTGGGC AGCAGCTTAGCAAGGAGCCCTTGCTCCCTGGGAAAGGCGGTGAACTTGAGTCTAAAGATGCAGTGCCTGGCCCTT AGGAAGGGCAGAGTGAGTCACGGCCCAGACTGGGCACCTTCGCGTCTCAGCCTCAGGGAGCCCCACAGCCCCAA GCTCGCTGAGGCAACGTGAGAACAGGCTATGGGAAGGCTGCAAAGGCTGAGAAATGCAAAGGCTCATATTTATAA ATCCCACCCCAGAGTGGGAGGGTCAGGTGCCAGACCTGGACTAAACTGCACCAAGGAAACACCCAGCAGGGTC TCCTGTGAGCCGGGGACCATGCAGCCCGAAACCTCCAGTCACTGCGCCCGGCAGGAGTCAGGAGCCAGGGACTGT GCAGCCTGGAACCTCCAGTCACTGTCCCCAGCAGGGTGGGCTGTGCCCAGCAGGAGTCAGGCTAAGAAACGCCAG GTCTGCCTGTTCTTGCTGGGCAATGGCTGATGGCTGCCAGTTTCTGCTGATACACAGGTAGGATGGGACCCTTCA ATAAATTGATGTAAACCACGTGAGAGGAAAATGTTAATAAAAAATGCAAAAGCCCCATCATTTGCACAAAACTC

GGGACCGAAACCCTTCAGGGAAGTCATTGCAGGGCCCTTGCTTAGAAACAATGGGCAGTCTCTGGAGAGCAGCAG ${\tt CCTGGAGGGGTCTCACGTGGGCGTCTATTTCTCCGCACATTGGTGTCCGCCCTGCCGAAGCCTCACCCGGGTCCT}$ GGTGGAATCCTACCGGAAGATCAAGGAGGCAGGCCAGAACTTCGAGATCATCTTCGTTAGTGCAGACAGGTCGGA GGAGTCCTTCAAACAGTACTTCAGTGAGATGCCCTGGCTCGCCGTCCCCTACACGGATGAGGCCCGGCGGTCGCG CCTCAACCGGCTGTACGGAATCCAAGGCATCCCCACGCTCATCATGCTGGACCCGCAGGGCGAGGTGATCACGCG GCAGGGGCGGTGGAGGTGCTGAACGACGAGGACTGCCGGGAGTTCCCCTGGCACCCCAAGCCCGTGCTGGAGCT CTCCGACTCCAACGCCGCGCAGCTTAACGAGGGCCCCTGCCTCGTCCTTTTTGTAGATTCTGAGGATGACGGAGA GTCCGAGGCGGCCAAGCAGCTGATTCAGCCGATAGCTGAGAAAATCATTGCCAAGTACAAAGCCAAAGAGGAGGA GGCTGCCCCTTTGCTCACCATCCTGGACATGTCAGCCCGGGCCAAGTACGTGATGGACGTGGAGGAGATCACCCC CGCCATCGTGGAGGCCTTTGTGAATGACTTCCTAGCAGAGAGCTCAAACCGGAGCCCATCTAGCGTGGCTCCGG CCCTGGGGTGTGGAATCAGCAGCGGCAGAGTCCACCGTGTTTGGAGACTCTGTTTGGGAGCACGGGATGGCCGGG GGCCCGGCCAGAGCGGGCTGCATGGCTTTCGCAAAGTCACTAGCTTTTGGTGAAGGATCTGCCAGGGTGTCCTG GGCAGAGTGAGCGTGGAGGGCCGGTGGGTCCCGCTCGGGCTCTGACTCTGACGTCGGCACACACGGCCCCGGACG GCCAGAGGGGAACCGCCGGGTGACACCTGCGTGGAGGCTGAGAAAGGGCCTCCGCTTAGAGCTGCGGGTG AGGACGTCCTTTTCTAAGCAACACGTCTTCCTCGGTCTGAGAGAAAAGCAGCCCACTCTTGTGTTCTCAGGCAG GGGATCTCCAAATGCAAAAGGAAGCTTGTAGAGGTTTTTTGGGTGAGAAAAAATGTAGCTAAGGTAATGGTTC ATATCATACAAACAGCTCCCACGATCCTGAAATTCTGTTAACGAATCCTTCTCTTTTGGACATCTTCCCAAGAAAC TTAGCCCTGAGTCCTAGGAGGAGCACCTCTGCACCAGCACGGACCTCTCGCTCCACCCAGCTCTGTGCCCAAGGC CCCTGATCTCTGCTGAGGTGCCCACACCCACGTTCGATCACCCCTGCCATTCCCTTTTATTTTCTTTTTTTGAG ATGGAGTCTTGCTCTGTCGCCCAGGCTGGAGTGCAGTGGCACCATCTTGGCTCACTTCAACCTCCGCCCCCAAGG TTCAAGTGATTCTCCTGCCTCAGCCTCCCGAGTAGCTGGGAT.TACAGGCACCCGCCACCGTACCTGGCTAATTTT TGTATTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCTGGTCTCGAACTCCTGACCTCAGGTGATCCACC ACTACAAAGATGAGAAATTACCAGAAGCCTCGCCTTTTCCTAAGCACCAGCGGAAGGAGCTGTGCCCCGGGATGG CTTACTTGGGCTGACCTGACCCCGAAAGAGAAACAGACACTCTGTTCTCAGGATTGGGGATGGACGGCTTCGG GTCCCCACCCGCTAATGAGCTGTTGACACTGTTGTTCCTTGCTGAATTGGATTGTTGACTTGTAGTTCAGAGGCG TACAACTAGTTGGCGATTAGACTTGTTATGTGATGTTACCAGCCTGAAATGCGATCACCCCGTAGGAAATAAAGC AGGCATCTCTGGACCTC

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TGGCCGTGTGATTGCTCTGTGCCCATTACCCTGTGGCCGTGTGACTGCTGCTGTGCCCATTACCCTGTGGCCGTG TGATTGCTGCTGTGCCCATTACCCTGTGGCCGTGTGATTGCTCTGTGCCCATTATCCTGTGGCCGTGTGATTGCT CTGTGCCCATTACCCTGTGGCCGTGTGATTGCTCTGTGCCCATTACCCTGTGGCCGTGTGATTGCTCTGTGCCCA TTATCCTGTGGCCGTGTGATTGCTCTGTGCCCATTATCCTGTGGCCGTGTGATTGCTCTGTGCCCATTATCCTGT GGCCGTGTGATTGCTCTGTGCCCATTACCCTGTGGCCGTGTGATTGCTGCTGTGCCCATTACCCTGTGGCCGTGT GATTGCTCTGTGCCCATTATCCTGTGGCCGTGTGATTGCTCTGTGCCCATTATCCTGTGGCTGTGATTGCTCT GTGCCCATTATCCTGTAGCCGTGTGATTGCTTCTGTGCCCATTACCCTGTGGCTGTGATTGCTGCTGTGCCCA TTATCCTGTGGCTGTGATTGCTGCTGTGCCCATTACCCTGTGGCTGTGATTGCTCTGTGCCCATTACCCTG TGGCTGTGTGATTGCTCTGTGCCCATTATCCTGTGGCCGTGTGATTGCTGCTGTGCCTGTTACCCTGTGGCTGTG TGATTGCTCTGTGCCCATTACCCTGTGGCTATGCTCCCTTCATCTGTCATGAGAAGCTCAGCTGTCATGTCCTGT GGTACATGCTCAGTGGCCCCTGTAGTTTGTACTGTCCTCCTATTTCTAAACCCCTCTCCCCACATCCTCTGCTGG $\tt CCCAGCCTTTGCTGGAGGGTCTCGCCTCAGCAGCCCAGCTTTTTCTTTTCACACACTTTTCCTGAAGGATCTCAT$ TCACCGTCTTGGTTCCGGTGATCCCCTCTGGGCAGATACCTCTCAGAATCACATTTCCCAGCTTACTTCCCTCCT GAACTTCCACCTGGCATTTCCGTTGCTGGAGGACATCTGTACCTTGATGGCCAAAGCTGAACTCATCTTTCCTCA ${\tt CACCTGCTCTGATTCTCCTCCATTCCCTGTATGTGATGTCACCTGGTGGCCTCCCAGTTCCCAGGCTGGAGAGCT}$ CGGAAGCCATTCTGGATTCCTCGGCCAAGTCCTTCTGACTCCAGCTGTGCAGTGGCTCTTGTAGTCATCCCTTCT CCCCGTCCGCTGATGTCCTTTAAAACCCTTGTCATCTCAAACCATGACAGCCTACTAACAGCAGTGGCCATCTGG AAACATTTTCACTATACTGTCTTATTTGGCTTGTCTGTGTGCAGGACCCTTGAACATCTGTGAAGAAATGACTAT TCTGCATGGAGGCTTCTTGCTGGCCGAGCAGCTGTTCCACCCTAAGGCACTGGCAGAATTAACAAAGTCTGACTG GGAACGTGTTGGACGCCCATCGTGGAGGCCTTAAGGGAGATCTCCTCGGCTGCAGCACACTCCCAGCCCTTTGC CTGGAAGAAGAAAGCCCTGATCATCTGGGCCAAGGTTCTGCAGCCGCACCCCGTGACCCCGTCCGACACAGA GACACGGTGGCAGGAAGACCTGTTCTTCTCGGTGGGCAACATGATCCCCACCATCAACCACACCATCCTCTTCGA GCTGCTCAAATCCCTGGAAGCTTCTGGACTCTTTATCCAGCTCCTGATGGCCCTGCCCACCACCATCTGCCATGC AGAACTAGAGCGCTTTCTGGAACATGTGACCGTTGACACTTCTGCCGAAGACGTGGCCTTCTTCCTGGACGTCTG GTGGGAGGTGATGAAGCACAAGGGTCACCCGCAGGACCCCCTGCTCTCCCAGTTTAGTGCAATGGCCCATAAGTA CCTGCCTGCCTTAGATGAGTTCCCCCATCCTCCAAAGAGGCTTAGGTCAGACCCAGACGCGTGCCCCACCATGCC CCTGTTGGCCATGCTGCTCCGCGGGCTGACACAGATCCAGAGTCGGATCCTGGGCCCGGGGAGGAAGTGCTGTGC GCTGGCCAACCTGGCTGACATGCTGACTGTTTTGCGCTGACAGAGGACGACCCCCAGGAGGTGTCTGCAACCGT GTATCTGGACAAACTGGCCACGGTGATCTCTGTGTGGAACTCGGACACCCAGAATCCCTACCACCAGCAGGCGCT GGCAGAGAGGTGAAGGAGGCAGAACGGGATGTCAGCCTGACCTCGCTGGCCAAACTXCCCCAGTGAGACCATTT TCGTGGGCTGCGAGTTCCTGCACCACCTGCTGCGGGAGTGGGGGGAGGAGTTGCAGGCCGTGCTCCGCAGCAGCC ACCGCACCAGCCTGTCCAAGGACAGGCAGGTGGTCTCTGAGCTGGCGGAGTGTGTCAGGGACTTCCTGAGGA AAACGAGCACGGTGCTGAAGAACAGGGCCTTGGAGGATATCACAGCTTCCATTGCCATGGCCGTCATCCAGCAGA AGATGGACCGCCATATGGAAGTGTGCTACATTTTTGCCTCTGAGAAGAAGTGGGCCTTCTCGGACGAGTGGGTAG CCTGCCTGGGGAGTAACAGGCCCTCTTCCGACAGCCAGACTTGGTGTTGAGGCTGCTGGAAACAGTGATAGACG TCAGCACAGCTGACAGAGCCATCCCTGAGTCTCAGATCCGGCAGGTGATCCACCTGATCCTGGAATGTTACGCAG ACCTCTCCCTGCCAGGTAAAAATAAAGTCCTTGCAGGTATCCTGCGTTCCTGGGGGCGAAAGGGCCTCTCTGAAA AACAGGGCTTGGCAAAAGCTGTGGCCTCCGTGGCCCGCCTGGTCATAGTGCACCCGGAAGTCACGGTGAAGAAAA TAGGTTTGTGGAAGAGCAGGGTCCCAATTCATCTGCCACTTTCATGGTGTCATGCCTCAAAGAAACCGTCTGGAT GAAGTTCTCTACACCCAAGGAAGAAAAGCAATTTTTAGAGCTCCTGAACTGCCTGATGAGTCCCGTGAAACCCCA AGGGATTCCAGTGGCTGCTCTTCTTGAGCCAGACGAGGTGCTGAAGGAATTTGTCCTGCCTTTCTTGAGGTTAGA TGTTGAAGAGGTAGACCTCAGTCTGAGGATCTTCATCCAGACTCTAGAGGCAAACGCGTGCCGAGAGGAATACTG GCTCCAGACCTGCTCCCCGTTTCCACTCCTCTTCAGCTTGTGCCAGCTCTTGGACCGCTTCAGCAAATACTGGCA GATTGTATCAGCCAATGCTGAGACCTTCTCCCCGGATGTCTGGATCAAGTCCCTGTCCTGGCTCCACCGCAAGTT

503476881 FIGURE 4646B

AGAACAGCTAGACTGGACTGTGGGCCTGAGGCTGAAGAGCTTCTTCGAGGGGCACTTCAAGTGTGAAGTGCCAGC ACGGGGCTCCTGGCCTGGATGGAGTGCTGCTGCGTCTCCAGCGGCATCTCGGAGAGGATGCTGTCTCTTTGGTG GTGGACGTGGGCAATCCTGAGGAGGTCAGACTGTTCAGCAAAGGCTTTCTGGTGGCCCTGGTGCAAGTCATGCCT TGGTGCAGCCCTCAGGAGTGGCAGCGCCTTCACCAGCTGACCAGGAGACTGCTGGAGAAGCAGCTCCTCCATGTC $\tt CCTTATA\underline{G}CCTGGAATATATTCAGTTTGTTCCCCTGCTCAACCTGAAGCCCTTTGCCCAGGAGTTGCAACTCTCC$ GTCCTCTTCCTGAGGACTTTCCAGTTTCTCTGCAGCCATAGCTGTCGTGATTGGCTTCCTCTGGAAGGCTGGAAC CACATCATGGCCATGCTCCACCCGGAGGTCTGTGAGCCACTCTACGTTTTAGCCTTGGAAACCCTCACCTGCTAT GAGACTTTGAGCAAGACCAACCCTTCTGTCAGCTCCTTGCTCCAGAGGGCACACGAGCAGCGCTTCTTAAAGTCC ATTGCTGAGGGCATCGGCCCTGAAGAACGGCGCCAAACCCTGTTGCAGAAGATGAGCAGCTTCTGACTTGGCGTG GGGAGCTGGGCCCCAACATGGCGGGTCTGCAGAAGATCAGCAGCTTCTTACCTGTGCGGGAGCGAAAAAGCTGGG CTTCAACATGGCAGGTCTGTAGGGGTCAGACCCGAGCAGCCTGGACTTTACAGTTATGTGAAACTGTCCACAAAA AGTCATGGCAATAATGGTGTAAAGAAAATAGTTTCTTGGGTATTTGTAACGTACAAACTATCATAAAAATTCTCC TCTTTCGC

GTGTGGCCACGGCCCTCTCGGCCCTCTCGCTGGGAGCGGAGCAGCAACAGAATCCATCATTCACCGGGCTCTCT ACTATGACTTGATCAGCAGCCCAGACATCCATGGTACCTATAAGGAGCTCCTTGACACGGTCACTGCCCCCAGA AGAACCTCAAGAGTGCCTCCCGGATCGTCTTTGAGAAGAAGCTGCGCATAAAATCCAGCTTTGTGGCACCTCTGG AAAAGTCATATGGGACCAGGCCCAGAGTCCTGACGGGCAACCCTCGCTTGGACCTGCAAGAGATCAACAACTGGG TGCAGGCGCAGATGAAAGGGAAGCTCGCCAGGTCCACAAAGGAAATTCCCGATGAGATCAGCATTCTCCTTCTCG GTGTGGCGCACTTCAAGGGGCAGTGGGTAACAAAGTTTGACTCCAGAAAGACTTCCCTCGAGGATTTCTACTTGG ATGAAGAGAGGACCGTGAGGGTCCCCATGATGTCGGACCCTAAGGCTGTTTTACGCTATGGCTTGGATTCAGATC TCAGCTGCAAGATTGCCCAACTGCCCTTGACCGGAAGCATGAGTATCATCTTCTTCCTGCCCCTGAAAGTGACCC AGGCGGTCCTCACTGTCCCCAAGCTGAAGCTGAGTTACGAAGGCGAAGTCACCAAGTCCCTGCAGGAGATGAAGC TGCAATCCTTGTTTGATTCACCAGACTTTAGCAAGATCACAGGCAAACCCATCAAGCTGACTCAGGTGGAACACC GGGCTGGCTTTGAGTGGAACGAGGATGGGGCGGGAACCACCCCCAGCCCAGGCTGCAGCCTGCCCACCTCACCT TTGGCAAGATTCTGGACCCCAGGGGCCCCTAATATCCCAGTTTAATATCCCAATACCCTAGAAGAAAAACCCGAGG GACAGCAGATTCCACAGGACACGAAGGCTGCCCCTGTAAGGTTTCAATGCATACAATAAAAGAGCTTTATCCCT

ATGGAAGAAGGCTCGGGGCCGCAGCCACCCCGGACCGCCCAGCCCCGGTACCTCCTCACCGCAATGGCCC CCTCGCTCAGCTGGCCGACCATGGCTCCACCGCCAAGACTTCCCCGCGGACCCCGCAACAGCTCCAGCTTCCCCA CCCGGACCTGAGG<u>ATG</u>AGCTGTTTCTAAAAAGACTTTCTAAAGGTTACTTGGTGGGAAAGGACTCGGACGCTCCT CTTTTCTACAGAGAAGAAGAACAAAAATTTCAGGAGAAAGATTACACAGGAGCTGCAGTGCTGTACTCTAAG GGAGTGTCACATTCAAGGCCTAACACTGAGGACATGTCACTGTGTCATGCTAACCGCTCGGCAGCCCTCTTCCAC CTGGGTCAGTATGAGACGTGTCTTAAAGACATTAACAGAGCACAGACACATGGGTATCCAGAAAGGTTGCAACCC AAGATTATGTTACGTAAAGCAGAATGTCTGGTGGCCCTGGGGAGACTGCAGGAGGCAAGCCAGACCATCAGTGAT CTGAAAATGAAGATGCAAGAAAAGGACAGTCTCACAGAAAGCTTCCCAGCAGCTCTGGCCAAAACCCTTGAGGAT GGTCGCTGTCTCGTTGCCACAAAAGATATTCTCCCAGGAGAGCTCCTGGTGCAGGAGGATGCTTTTGTGAGTGTT CTCAACCCAGGAGAACTGCCACCACCGCATCACGGCCTAGACAGCAAATGGGACACCAGAGTCACCAATGGGGAC CTCTATTGTCACCGATGTTTGAAGCACACTTTGGCCACAGTTCCGTGTGACGGATGCAGTTATGCCAAGTATTGC AGCCAGGAGTGTTTGCAGCAGGCCTGGGAGCTCTACCACAGGACAGAATGTCCTCTGGGAGGGCTGCTTCTCACA CTGGGTGTCTTTTGCCACATTGCCCTGAGGTTGACTCTTTTGGTGGGATTTGAGGATGTTCGCAAAATCATAACG AAGCTTTGTGATAAGATTAGTAACAAGGACATCTGTTTACCTGAAAGCAACAATCAGGTCAAGACACTTAATTAT GGCCTAGGGGAGAGTGAGAAAAATGGCAACATCGTTGAGACCCCAATTCCTGGATGCGATATTAATGGGAAGTAT GAAAATAATTATAATGCTGTCTTCAACCTTTTGCCCCACACTGAAAACCATAGCCCAGAGCACAAATTCCTCTGT GCTCTCTGTGTTTCTGCACTGTGCAGACAGCTAGAAGCAGCCAGTTTACAGGCCATCCCAACTGAGAGGATTGTG AACTCCTCTCAGCTTAAAGCAGCAGTGACACCTGAATTGTGTCCTGACGTGACTATTTGGGGAGTGGCGATGCTG CTGTCGGGGTGCCAGCGTGACGCCGAGAGCTTCCTGTGGGCAGAGCACGCCGTGGTGGGAGAGATCGCGGATGGC CTGGCCCGGGCCTGTGCTGCCTTAGGAGACTGGCAAAAGTCAGCCACCCATCTACAGAGGAGTCTCTACGTGGTG GAGGTTCGCCACGGGCCGTCCAGTGTTGAAATGGGCCATGAGCTCTTCAAATTGGCCCAGATCTTTTTCAACGGG TTTGCAGTACCCGAAGCCCTGAGCACAATACAGAAAGCTGAGGAGGTTCTGTCGCTGCACTGTGGCCCATGGGAC TAG

MSLCHANRSAALFHLGQYETCLKDINRAQTHGYPERLQPKIMLRKAECLVALGRLQEASQTISDLERNFTATPAL ADVLPQTLQRNLHRLKMKMQEKDSLTESFPAALAKTLEDAALREENEQLSNASSSIGLCVDPLKGRCLVATKDIL PGELLVQEDAFVSVLNPGELPPPHHGLDSKWDTRVTNGDLYCHRCLKHTLATVPCDGCSYAKYCSQECLQQAWEL YHRTECPLGGLLLTLGVFCHIALRLTLLVGFEDVRKIITKLCDKISNKDICLRESNNQVKTLNYGLGEMLKWAMS SSNWPRSFSTGLQYPKP

AGAGTAGTTATCTTGATGGAAXTTAGAAGTTTTGAAGTCAGCTGAAGCAGTTGGAGTGAAGATTGGCAATCCAGT ${\tt GGCCCCAGXCCGCXAXGAATGGAAGCTCGGGAATGGGTTCTACTGTTTCTAAGGCTTATGGTGCTTCAAAGACAT}$ TTGGAAAAGCTGCAXGGTCCCAGCCTGTCACACACTTCTGGGGGAACAXCAGTCCAAAGTGGTGCCCATTGCCAG CCTCACTCCTTACCAGTCCAAGTGGACCATTTGTGCTCGTGTTACCAACAAAAGTCAGATCCGTACCTGGAGCAA CTCCCGAGGGGAAGGGAAGCTTTTCTCCCTAGAACTGGTTGACGAAAGTGGTGAAATCCGAGCTACAGCTTTCAA TGAGCAAGTGGACAAGTTCTTTCCTCTTATTGAAGTGAACAAGGTGTATTATTTCTCGAAAGGCACCCTGAAGAT TGCTAACAAGCAGTTCACAGCTGTTAAAAATGACTACGAGATGACCTTCAATAACGAGACTTCCGTCATGCCCTG TGAGGACGACCATCATTTACCTACGGTTCAGTTTGATTTCACGGGGATTGATGACCTCGAGAACAAGTCGAAAGA CTCACTTGTAGACATCATCGGGATCTGCAAGAGCTATGAAGACGCCACTAAAATCACAGTGAGGTCTAACAACAG AGAAGTTGCCAAGAGGAATATCTACTTGATGGACACATCCGGGAAGGTGGTGACTGCTACACTGTGGGGGGAAGA TGCTGATAAATTTGATGGTTCTAGACAGCCCGTGTTGGCTATCAAAGGAGCCCGAGTCTCXTGATTTCGGTGGAC GGAGCCTCTCCGTGCTGTCTTCAAGCAXCTATCATTGCGAATCCTGACATCCCAGAGGCCTATAAGCTTCGTGGA TGGTTTGACGCAGAAGGACAAGCCTTAGATGGTGTTTCCATCTCTGATCTAAAGAGCGGCGGAGTCGGAGGAGT AACACCAACTGGAAAACCTTGTATGAGGTCAAATCCGAGAACCTGGGCCAAGGCGACAAGCCGGACTACTTTAGT TCTGTGGCCACAGTGGTGTATCTTCGCAAAGAGAACTGCATGTACCAAGCCTGCCCGACTCAGGACTGCAATAAG AAAGTGATTGATCAACAGAATGGATTGTACCGCTGTGAGAAGTGCGACACCGAATTTCCCAATTTCAAGTACCGC ATGATCCTGTCAGTAAATATTGCAGATTTTCAAGAGAATCAGTGGGTGACTTGTTTCCAGGAGTCTGCTGAAGCT ATCCTTGGACAAAATGCTGCTTATCTTGGGGAATTAAAAGACAAGAATGAACAGGCATTTGAAGAAGTTTTCCAG AATGCCAACTTCCGATCTTTCATATTCAGAGTCAGGGTCAAAGTGGAGACCTACAACGACGAGTCTCGAATTAAG GCCACTGTGATGGACGTGAAGCCCGTGGACTACAGAGAGTATGGCCGAAGGCTGGTCATGAGCATCAGGAGAAGT GCATTGATGTGAGAGGAGCAGTGCCAATCGGGCAGAAGTTTGCAAATAGGCAGAATGGAATCGATTTCCTCCCAC GGAGTCAGCCAGTGGCTAGCGCAAGACCAGTCACTCCCTCTGCCTTCAGGCTTCTGTCAATTTCATTATCATCAA GCAGGAATTATGTCGTAAGTCACTGACCCTAACTGCAGACCATGAAGTAAATTATGTAACTAGGTTTTTGCTTCT TGAGCACCTGGGGATTTTAGTAAGTGTGTCTTCCTA

WO 2004/030615 PCT/US2003/028547

5039/6881 FIGURE 4651

GATGGCTGCTGTTGCTGAGACACGTTGGTCGTCATTGCCTCCGAGCCCACTTTAGCCCTCAGCTCTGTATCAG AAATTGGTCTCTTCCCATGGCGATGTCCATCTGCCACCGTGGCACTGGTATTGCTTTGAGTGCAGGGGTCTCTCT TTTTGGCATGTTGGCCGTGTTACTCCCTGGGAACTTTGAGTCTTATTTGGAACTTGTGAAGTCCCTGTGTCTGGG GCCAGCACTGATCCACACAGCTAAGTTTGCACTCGTCTTCCCTCTCATGTATCATACCTGGAATGGGATCCGACA CTTGATGTGGGACCTAGGAAAAGGCCTGAAGATTCCCCAGCTATACCAGTCTGGAGTGGTTGTCCTGGTTCTTAC TGTGTTGTCCTCTATGGGGCTGGCAGCCATGTGAAGAAAGGAGGCTCCCAGCATCATCTTCCTACACATTATTAC ATTCACCCATCTTTCTGTTTTGTCATTCTTCAGCCTGGGAAAAGTTCTCCTTATTTGTTTAGATCCTTTTTG TATTTCAGATCTCCTTGGAGCAGTAGAGTACCTGGTAGACCTTAATAGTGGAAAAGGGTCTAGTTTTCCCCTTG TTTCTAAAGATGAGGTGGCTGXCAAAAACTCCCCTTTTTTGCCCACAGCTTGCCTACTCTCGGCCTAGAAGCAGT TATTCTCTCCCATATTGGGCTTTGATTTGTGCTGAGGGTCAGCTTTTGGCTCCTTCTTCCTGAGACAGTGGAAA CAATGCCAGCTCTXGTGGCTTCTXGCCCTGGGGACGGGCCGGGTGGGGGGGGGTGGGTTGGTGAGGCTTTGGGTGCCA $\verb|CTACCTGTGGGTTGCTGGCTTAAAGGACAATTCTCTTCATTGGTGXAGAGCCCAGGCCATTAACACCTACACAGT|\\$ GTTATTGAAAGAGAGGTGGGGGTGGAGGGGAATTAGTCTGTCCCAGCTAGAGGGAGATAAAGAGGGCTAGTT AGTTCTTGXGAGCAGCTGCTTTTGAGGAGAAAATATATAGCTTTGGACACGAGGAAGATCCAGAAAATTATCATT GAACATATTAATGGTTATTTCTTTTTTTTTTGGATTTCCXAGAAAAGCCTCTTAATTTTATGCTTTCTCATCGAAGT AATGTACCCTTTTTTTCTGAAACTGAATTAAATACTCATTTT

MAALLLRHVGRHCLRAHFSPQLCIRNAVPLGTTAKEEMERFWNKNIGSNRPLSPHITIYSWSLPMAMSICHRGTG IALSAGVSLFGMSALLLPGNFESYLELVKSLCLGPALIHTAKFALVFPLMYHTWNGIRHLMWDLGKGLKIPQLYQ SGVVVLVLTVLSSMGLAAM

GATGGCTGCGCTGTTGCTGAGACACGTTGGTCGTCATTGCCTCCGAGCCCACTTTAGCCCTCAGCTCTGTATCAG
AAATTGGTCTCTTCCCATGGCGATGTCCATCTGCCACCGTGGCACTGGTATTGCTTTGAGTGCAGATGTGGGACC
TAGGAAAAGGCCTGAAGATTCCCCAGCTATACCAGTCTGGAGTGGTTGTCCTGTTCTTACTGTGTTGTCCTCTA
TGGGGCTGGCAGCCATGTGAAGAAAGGAGGCTCCCAGCATCATCTTCCTACACATTATTACATTCACCCATCTTT
CTGTTTGTCATTCTTATCTCCAGCCTGGGAAAAGTTCTCCTTATTTGTTTAGATCCTTTTTGTATTTTCAGATCTC
CTTGGAGCAGTAGAGTACCTGGTAGACCTTAATAGTGGAAAAGGGTCTAGTTTTCCCCTTGTTTCTAAAGATGAG
GTGGCTGXCAAAAAACTCCCCTTTTTTGCCCACAGCTTGCCTACTCTCGGCCTAGAAGCAGTTAT

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5042/6881 FIGURE 4654

5044/6881 FIGURE 4656A

GCGGCGAGGGCGCGGGGCTCTGAGGACCGCTCGGCCGCCTCCTGCCACACCATGGGCAGCGCAGAGGACGCA GTCAAAGAGAAACTGCTGTGGAACGTGAAGAAGGAGGTGAAGCAAATCATGGAGGAGGCTGTCACCAGGAAGTTT GTGCATGAAGACAGCCACCATCATTGCTTTATGTGGTGCAGTGGAGGCTTGCCTCTTGCATCAGCTGAGACGC CGTGCCGCTGGCTTCCTGCGCAGTGACAAGATGGCAGCCCTGTTCACCAAGGTGGGGAAGACGTGCCCAGTGGCG GGGGAGATTTGCCACAAGGTACAGGAGCTGCAGCAACAAGCAGAGGGCAGGAAACCCTCAGGGGTCAGCCAGGAG GCCCTGCGGAGACAGGCCTCAGCCAGCGGGAAGGCCCCGGCCCTCAGCCCTCAGGCCTTGAAACACGTATGGGTA CGCACGGCGCTCATCGAGAAAGTTCTGGACAAGGTCGTGCAATACCTGGCGGAAAACTGCAGCAAGTACTACGAG AAGGAGGCACTGCTGGCAGACCCTGTGTTCGGCCCGATCCTGGCCTCTCTTCTAGTGGGACCCTGTGCCTTGGAA TACACTAAGCTCAAGACAGCCGATCACTGCACTGACCCCTCTGCTGATGAGCTGGTCCAGCGGCACCGCATC CGGGGTCCACCTACTCGCCAGGACTCCCCTGCAAAGCGCCCAGCCCTGGGGATCCGGAAACGGCACTCAAGCGGC AGCGCGTCGGAGGACAGGCTGCCTGTCCCGCGAGTGTGTGGAGTCCCTGCACCAGAACTCACGGACGCGG CTGCTCTATGGCAAGAACCACGTGCTGGTGCAGCCGAAGGAGGATATGGAGGCGGTCCCTGGCTACCTCTCCCTG CACCAGTCTGCAGAGACCCTGACTCTGAAGTGGACCCCCAACCAGCTCATGAATGGGACTCTGGGGGACTCCGAG CTGGAAAAGAGCGTTTACTGGGACTATGCCCTCGTGGTGCCCTTCAGCCAGGTCGTGTGCATCCACTGCCACCAG CAAAAGAGCGGTGGCACGCTTGTGCTGGTGAGCCAGGATGGCATCCAGAGGCCGCCGCTGCATTTCCCACAGGGA GGACACCTGCTGTCCTTTCTGTCCTGTGGAGAATGGGCTGCCTCGGGGGACAGCTAGAGCCCCCGCTGTGG ACCCAGCAAGGGAAGGGGAAAGTGTTCCCCAAGCTACGGAAACGAAGCAGCATTCGCTCCGTGGATATGGAGGAG ATGGGCACGGGCCGGCCACCGACTATGTGTTCCGGATCATCTACCCCGGCCACAGGCACGAGCACAACGCTGGT GACATGATCGAGATGCAGGGCTTTGGGCCCAGCCTGCCAGCCTGGCACCTGGAGCCCCTGTGCAGTCAGGGCTCC TCCTGCCTCTCCTGCTCCAGCAGCTCCCCACATGCAACCCCCAGCCACTGTAGCTGCATCCCCGACCGGTTG CGCCACCTGTCCACGGTGCGGACCCACCTGTCGGCGCTGGTGCACCATAGCGTTATCCCACCTGACCGGCCCCG GGGGCCTCCGCGGGCCTCACCAAGGACGTGTGGAGCAAGTATCAGAAGGACAAAAAGAACTACAAAGAGCTGGAG CTGCTGCGGCAAGTTTACTACGGAGGCATAGAGCACGAGATCCGCAAGGACGTCTGGCCCTTTCTGCTTGGCCAC TACAAGTTCGGCATGAGCAAGAAGGAGATGGACCAGGTGGACGCAGCAGGTACCAGCAGGTGTTG TCCTCAGGCAGCAGCATCGACAGCCACGTGCAGCGCCTCATCCACCAGCACCATCAGCAACGATGTGTTT ATCTCAGTGGATGATCTGGAACCCCGGAGCCCCAGGACCCTGAAGATTCCAGACCAAAACCTGAGCAGGAAGCA GGACCCGGGACTCCGGGCACCGCCGTGGTGGAGCAGCATTCCGTGGAGTTCGACTCTCCAGACTCAGGACTG CCCTCTCTCGCAATTACTCEGTGGCCTCGGGCATCCAGTCAAGCCTAGATGAGGGGCAGAGCGTGGGCTTCGAA GAGGAGGACGGCGGTGGGGAGGAAGGCTCCAGTGGGCCCGGCCCTGCAGCTCACACTTTGAGGGAGCCCCAGGAT ACTATAGAATTACTGGACACTGTGGCCTTAAACCTGCACCGCATAGACAAGGATGTGCAGAGGTGTGACCGCAAC TACTGGTACTTCACGCCCCCAACCTCGAGAGGCTCAGAGACGTCATGTGCAGCTACGTGTGGGAGCACCTGGAC GTGGGCTATGTGCAGGGCATGTGCGATCTGCTGGCGCCTCTCCTGGTCACCCTCGACAATGATCAGCTGGCCTAC AGCTGCTTCAGCCACCTCATGAAGAGGATGAGCCAGAACTTCCCCAACGGGGGTGCCATGGACACCCACTTTGCC AACATGCGCTCCCTCATCCAGATCCTGGACTCAGAGCTGTTTGAGCTGATGCATCAGAATGGAGACTACACCCAC TTCTACTTCTGTTATCGCTGGTTCCTGCTGGATTTTAAGAGAGAACTGCTGTATGAGGATGTTTTGCTGTGTGG GAGGTGATCTGGGCAGCCAGGCACATCTCATCGGAGCACTTTGTCCTGTTCATCGCCCTCGCCCTGGTGGAGGCC TACCGAGAGATCATCCGTGACAACAACATGGACTTCACTGACATCAAGTTTTTCAATGAACGTGCTGAGCAT CACGATGCCCAGGAGATCCTGCGGATTGCCCGGGACCTCGTCCACAAGGTGCAGATGCTCATAGAGAACAAGTGA GCTGGGGCCAGGAGGCAGCCGTGCAGAGCCTGGGCTCCGGCAGGGAGAGGTGCAGGGGAGTCACCGCCCAGA CCTCCCCAGCCACCAACCGACCCCCCTCTGTTCCTAACAAAGCGGTTGTGAGCCTGGATCCGACTCCCGGCAGT GCTGACCCTGCAGGGCAAGTCAGGGCCAGGATGCCCTCGGATCAGGCCGGGATGGGAGGGGTCAGCCTCAGGG AGCAGCTGCCTTGGGGGACACACCTACTCTGCTCCCCTCTCACACATCTGGGAGTAGCCCCACTGCCACCTGCAG TACTCAGCTGGGGTGGCAGAGGGCGAGAGGCTCTGTGCTGTCCCTTCTGAGGGTCCCTTTGCAGTCCCAGTAT ATTGTGCGTGCACCAGCCCAGCTGGAGCAACCAAAACTGCTTCTGGTTTAGGCACACGTCACGGGTGCGGGAGA

5045/6881 FIGURE 4656B

5046/6881 FIGURE 4657

MGSAEDAVKEKLLWNVKKEVKQIMEEAVTRKFVHEDSSHIIALCGAVEACLLHQLRRRAAGFLRSDKMAALFTKV
GKTCPVAGEICHKVQELQQQAEGRKPSGVSQEALRRQGSASGKAPALSPQALKHVWVRTALIEKVLDKVVQYLAE
NCSKYYEKEALLADPVFGPILASLLVGPCALEYTKLKTADHYWTDPSADELVQRHRIRGPPTRQDSPAKRPALGI
RKRHSSGSASEDRLAACARECVESLHQNSRTRLLYGKNHVLVQPKEDMEAVPGYLSLHQSAESLTLKWTPNQLMN
GTLGDSELEKSVYWDYALVVPFSQVVCIHCHQQKSGGTLVLVSQDGIQRPPLHFPQGGHLLSFLSCLENGLLPRG
QLEPPLWTQQGKGKVFPKLRKRSSIRSVDMEEMGTGRATDYVFRIIYPGHRHEHNAGDMIEMQGFGPSLPAWHLE
PLCSQGSSCLSCSSSSSPHATPSHCSCIPDRLPLRLLCESMKRQIVSRAFYGWLAHCRHLSTVRTHLSALVHHSV
IPPDRPPGASAGLTKDVWSKYQKDKKNYKELELLRQVYYGGIEHEIRKDVWPFLLGHYKFGMSKKEMEQVDAVVA
ARYQQVLAEWKACEVVVRQREREAHPATRTKFSSGSSIDSHVQRLIHRDSTISNDVFISVDDLEPPEPQDPEDSR
PKPEQEAGPGTPGTAVVEQQHSVEFDSPDSGLPSSRNYSVASGIQSSLDEGQSVGFEEEDGGGEEGSSGPGPAAH
TLREPQDPSQEKPQAGELEAGEELAAVCAAAYTIELLDTVALNLHRIDKDVQRCDRNYWYFTPPNLERLRDVMCS
YVWEHLDVGYVQGMCDLLAPLLVTLDNDQLAYSCFSHLMKRMSQNFPNGGAMDTHFANMRSLIQILDSELFELMH
QNGDYTHFYFCYRWFLLDFKRELLYEDVFAVWEVIWAARHISSEHFVLFIALALVEAYREIIRDNNMDFTDIIKF

CGCCGCCCAGCTCCCAGCCGAGGCTTTCTCAACCGCGTCAATAAAAGGCCGCCCCGACCCGCCCCCGCCCCCGC GAGGGACCGAGTGCTCCCCATGAGCGCACGTGGGCCGGGCGGTCCGCAAGCCCGGCTGAGAGCGCGCCATGGGGC AGGCGGGCTGCAAGGGGCTCTGCCTGTCGCTGTTCGACTACAAGACCGAGAAGTATGTCATCGCCAAGAACAAGA AGGTGGGCCTGCTGCACCTGCAGGCCTCCATCCTGGCGTACCTGGTCGTATGGGTGTTCCTGATAAAGA AGGGTTACCAAGACGTCGACACCTCCCTGCAGAGTGCTGTCATCACCAAAGTCAAGGGCGTGGCCTTCACCAACA CCTCGGATCTTGGGCAGCGGATCTGGGATGTCGCCGACTACGTCATTCCAGCCCAGAATGAAGGCATTCCTGATG GCGCGTGCTCCAAGGACAGCGACTGCCACGCTGGGGAAGCGGTTACAGCTGGAAACGGAGTGAAGACCGGCCGCT GCCTGCGGAGAGAGACTTGGCCAGGGGCACCTGTGAGATCTTTGCCTGGTGCCCGTTGGAGACAAGCTCCAGGC CGGAGGAGCCATTCCTGAAGGAGGCCGAAGACTTCACCATTTTCATAAAGAACCACATCCGTTTCCCCAAATTCA ACTTCTCCAAAAGCAATGTGATGGACGTCAAGGACAGATCTTTCCTGAAAATCATGCCACTTTGGCCCCCAAGAACC ACTACTGCCCCATCTTCCGACTGGGCTCCGTGATCCGCTGGGCCGGGAGCGACTTCCAGGATATAGCCCTGGAGG GTGGCGTGATAGGAATTAATATTGAATGGAACTGTGATCTTGATAAAGCTGCCTCTGAGTGCCACCCTCACTATT CTTTTAGCCGTCTGGACAATAAACTTTCAAAGTCTGTCTCCTCCGGGTACAACTTCAGATTTGCCAGATATTACC GAGACGCAGCCGGGGTGGAGTTCCGCACCCTGATGAAAGCCTACGGGATCCGCTTTGACGTGATGGTGAACGGCA AGGAAGTGAGGGCCTAGAAGACAGTTCCCAGGAGGCCGAGGACGAGGCATCGGGGCTGGGGCTATCTGAGCAGC TCACATCTGGGCCAGGGCTGCTGGGGATGCCGGAGCAGCAGGAGCTGCAGGAGCCACCCGAGGCGAAGCGTGGAA GCAGCAGTCAGAAGGGGAACGGATCTGTGTGCCCACAGCTCCTGGAGCCCCACAGGAGCACGTGAATTGCCTCTG CTTACGTTCAGGCCCTGTCCTAAACCCAGCCGTCTAGCACCCAGTGATCCCATGCCTTTGGGAATCCCAGGATGC TGCCCAACGGGAAATTTGTACATTGGGTGCTATCAATGCCACATCACAGGGACCAGCCATCACAGAGCAAAGTGA CCTCCACGTCTGATGCTGGGGTCATCAGGACCGACCCATCATGGCTGTCTTTTTTGCCCCACCCCTGCCGTCAGT CCTTGAGCACCTCAGCTAAGGACCGCAGTGCCCTGTAGAGTTCCTAGATTACCTCACTGGGAATAGCATTGTGCG TGTCCGGAAAAGGGCTCCATTTGGTTCCAGCCCACTCCCCTCTGCAAGTGCCACAGCTTCCCTCAGAGCATACTC TCCAGTGGATCCAAGTACTCTCTCTCCTAAAGACACCACCTTCCTGCCAGCTGTTTGCCCTTAGGCCAGTACACA GAATTAAAGTGGGGGAGATGGCAGACGCTTTCTGGGACCTGCCCAAGATATGTATTCTCTGACACTCTTATTTGG TCATAAAACAATAAATGGTGTCAATTTC

5048/6881 FIGURE 4659

 ${\tt MRTQRERGEAPDICSLGLLENMEMFLWPHICEIYKKGDTVDIKGMGTVQKGMPHKGYHGKTGRVYNVPQHAVGIV} \\ {\tt VNKQVKGKILAKRINVRIEHIKHSKSRDSFLERVKENDQKKKEAKEKGTWVQLKHQPAPPREAHFVRTNGKAPEL} \\ {\tt LEPIPYEFMA}$

5050/6881 FIGURE 4661

MAATLLAARGAGPAPAWGPEAFTPDWESREVSTGTTIMAVQFDGGVVLGADSRTTTGSYIANRVTDKLTPIHDRI FCCRSGSAADTQAVADAVTYQLGFHSIELNEPPLVHTAASLFKEMCYRYREDLMAGIIIAGWDPQEGGQVYSVPM GGMMVRQSFAIGGSGSSYIYGYVDATYREGMTKEECLQFTANALALAMERDGSSGGVIRLAAIAESGVERQVLLG DQIPKFAVATLPPA

GGGGGAAGATGGCGGCAGCCGTTCTGAGTGGGCCCTCTGCGGGCTCCGCGGCTGGGGTTCCTGGCGGGACCGGG GTCTCTCGGCAGTGAGCTCGGGCCCGGCTCCGCCTGCTGCTGCTGGAGAGTGTTTCTGGTTTGCTGCAACCTC GAACGGGGTCTGCCGTTGCTCCGGTGCATCCCCCAAACCGCTCGGCCCCACATTTGCCCGGGCTCATGTGCCTAT TGCGGCTGCATGGGTCGGTGGGCGGGCCCAGAACCTTTCAGCTCTTGGGGCATTGGTGAGTCTCAGTAATGCAC GTCXTXXCAGTTCCATCAAAACTCGGTTTGAGGGCCTGTGTCTGCTGCTGCTGGTAGGGGAGAGCCCCACAG AGCTATTCCAGCAGCACTGTGTGTCTTGGCTTCGGAGCATTCAGCAGGTGTTACAGACCCAGGACCCGCCTGCCA TCTCCATGAACCACCTCCCTGGCCTTCTCACCTCCCTGCTGGGCCTCAGGCCAGAGTGTGAGCAGTCAGCATTGG AAGGAATGAAGGCTTGTATGACCTATTTCCCTCGGGCTTGTGGTTCTCTCAAAGGCAAGCTGGCCTCATTTTTTC TGTCTAGGGTGGATGCCTTGAGCCCTCAGCTCCAACAGTTGGCCTGTGAGTGTTATTCCCGGCTGCCCTCTTTAG GGGCTGGCTTTTCCCAAGGCCTGAAGCACACCGAGAGCTGGGAGCAGGAGCTACACAGTCTGCTGGCCTCACTGC ACACCCTGCTGGGGGCCCTGTACGAGGGAGCAGAGACTGCTCCTGTGCAGAATGAAGGCCCTGGGGTGGAGATGC TGCTGTCCTCAGAAGATGGTGATGCCCATGTCCTTCTCCAGCTTCGGCAGAGGTTTTCGGGACTGGCCCGCTGCC TAGGGCTCATGCTCAGCTCTGAGTTTGGAGCTCCCGTGTCCCTGTGCAGGAAATCCTGGATTTCATCTGCC GGACCCTCAGCGTCAGTAGCAAGAATATTAGCTTGCATGGAGATGGTCCCCTGCGGCTGCTGCTGCCCTCTA TCCACCTTGAGGCCTTGGACCTGCTGTCTGCACTCATCCTCGCGTGTGGAAGCCGGCTCTTGCGCTTTGGGATCC TGATCGGCCGCCTGCTTCCCCAGGTCCTCAATTCCTGGAGCATCGGTAGAGATTCCCTCTCTCCCAGGCCAGGAGA GGCCTTACAGCACGGTTCGGACCAAGGTGTATGCGATATTAGAGCTGTGGGTGCAGGTTTGTGGGGCCTCGGCCG TAAAGCTGGATGTGGGGGAAGCTATGGCCCCGCCAAGCCACCGGAAAGGGGATAGCAATGCCAACAGCGACGTGT GTGCGGCTGCACTCAGAGGCCTCAGCCGGACCATCCTCATGTGTGGGCCTCTCATCAAGGAGGAGACTCACAGGA GACTGCATGACCTGGTCCTCCCCTGGTCATGGGTGTACAGCAGGGTGAGGTCCTAGGCAGCTCCCCGTACACGA GCTCCCGCTGCCGCGTGAACTCTACTGCCTGCTGCGCGCTGCTGCTGCCCGTCTCCTCGCTGCCCACCTC CTCTTGCCTGTGCCCTGCAAGCCTTCTCCCTCGGCCAGCGAGAAGATAGCCTTGAGGTCTCCTCTTTCTGCTCAG AAGCACTGGTGACCTGTGCTGCTCTGACCCACCCCGGGTTCCTCCCCTGCAGCCCATGGGCCCCACCTGCCCCA CACCTGCTCCAGTTCCCCCTCTGAGGCCCCATCGCCCTTCAGGGCCCCACCGTTCCATCCTCCGGGCCCCATGC ${\tt CCTCAGTGGGCTCCATGCCCTCAGCAGGCCCCATGCCCTCAGCAGGCCCTGTGCCCT}$ CGGCACGCCCTGGACCTCCCACCACACCACCTAGGCCTTTCTGTCCCAGGCCTAGTGTCTCTCCCC GGCTTCTTCCTGGCCCTGAGAACCACCGGGCAGGCTCAAATGAGGACCCCATCCTTGCCCCTAGTGGGACTCCCC CACCTACTATACCCCCAGATGAAACTTTTGGGGGGGAGAGTGCCCAGACCAGCCTTTGTCCACTATGACAAGGAGG AGGCATCTGATGTGGAGATCTCCTTGGAAAGTGACTCTGATGACAGCGTGGTGATCGTGCCCGAXGGGGCTTCCC CCCCTGCCACCCCCACCCTCAGGTGCCACACCACCCCCTATAGCCCCCACTGGGCCACCAACAGCCTCCCC TCCTGTGCCAGCGAAGGAGGAGCCTGAAGAACTTCCTGCAGCCCCAGGGCCTCTCCCGCCACCCCCACCTCCGCC GCCGCCTGTTCCTGGTCCTGTGACGCTCCCTCCACCCCAGTTGGTCCCTGAAGGGACTCCTGGTGGGGGAGGACC CCCAGCCCTGGAAGAGGATTTGACAGTTATTAATATCAACAGCAGTGATGAAGAGGAGGAGGAAGAAGAAGAAGA GGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAGGAAGACTTTGAGGAAGAGAAGAGGAATGAAGAGGAATATTT AGAAGAGGAGGAGGAGGAGGAAGAAGAACTGGAAGAGGTGGAAGACCTGGAGTTTGGCACAGCAGGAGGGGA GGTAGAAGAAGGTGCACCTCCACCCCCAACCCTGCCTCCAGCTCTGCCTCCCCCTGAGTCTCCCCCAAAGGTGCA GCCAGAACCCGAACCTGAACCCGGGCTGCTTTTGGAAGTGGAGGAGCCAGGGACGGAGGAGGAGGGGGGCTGA CACAGCTCCCACCCTGGCCCCTGAAGCGCTCCCCTCCCAGGGAGAGGTGGAGAGGGGAAGGCCCTGCGGC AGGGCCCCCXTXCXXXCCCAGGAGCTTGTTGAAGAAGAGCCCTCTGCTCCCCCAACCCTGTTGGAAGAGGAGACT GAGGATGGGAGTGACAAGGTGCAGCCCCCACCAGAGACACCTGCAGAAGAAGAGATGGAGACAGAGACAGAGGCC GAAGCTCTCCAGGAAAAGGAGCAGGATGACACAGCTGCCATGCTGGCCGACTTCATCGATTGTCCCCCTGATGAT GAGAAGCCACCTCCCACAGAGCCTGACTCCTAGCCATCTTCTGCACCCCACTCTTTGTTTCCAATAAAGTTA **TGTCCTTAGATAGCG**

MAAAVLSGP SAGSAAGVPGGTGGLSAVSSGPRLRLLLLESVSGLLQPRTGSAVAPVHPPNRSAPHLPGLMCLLRL HGSVGGAQNLSALGALVSLSNARLSSIKTRFEGLCLLSLLVGESPTELFQQHCVSWLRSIQQVLQTQDPPATMEL AVAVLRDLLRYAAQLPALFRDISMNHLPGLLTSLLGLRPECEQSALEGMKACMTYFPRACGSLKGKLASFFLSRV DALSPQLQQLACECYSRLPSLGAGFSQGLKHTESWEQELHSLLASLHTLLGALYEGAETAPVQNEGPGVEMLLSS EDGDAHVLLQLRQRFSGLARCLGLMLSSEFGAPVSVPVQEILDFICRTLSVSSKNISLHGDGPLRLLLLPSIHLE ALDLLSALILACGSRLLRFGILIGRLLPOVLNSWSIGRDSLSPGQERPYSTVRTKVYAILELWVQVCGASAGMLQ GGASGEALLTHLLSDISPPADALKLRSPRGSPDGSLQTGKPSAPKKLKLDVGEAMAPPSHRKGDSNANSDVCAAA ${\tt LRGLSRTILMCGPLIKEETHRRLHDLVLPLVMGVQQGEVLGSSPYTSSRCRRELYCLLLALLLAPSPRCPPPLAC}$ ALQAFSLGQREDSLEVSSFCSEALVTCAALTHPRVPPLQPMGPTCPTPAPVPPPEAPSPFRAPPFHPPGPMPSVG ${\tt SMPSAGPMPSAGPMPSAGPVPSARPGPPTTANHLGLSVPGLVSVPPRLLPGPENHRAGSNEDPILAPSGTPPPTI$ PPDETFGGRVPRPAFVHYDKEEASDVEISLESDSDDSVVIVPEGLPPLPPPPPSGATPPPIAPTGPPTASPPVPA KEEPEELPAAPGPLPPPPPPPPPPVPGPVTLPPPQLVPEGTPGGGGPPALEEDLTVININSSDEEEEEEEEEE APPPPTLPPALPPPESPPKVQPEPEPEGLLLEVEEPGTEEERGADTAPTLAPEALPSQGEVEREGESPAAGPPP QELVEEEPSAPPTLLEEETEDGSDKVQPPPETPAEEEMETETEAEALQEKEQDDTAAMLADFIDCPPDDEKPPPP **TEPDS**

5055/6881 FIGURE 4666

 ${\tt MAGWNAYIDNLMADGTCQDAAIVGYKDSPSVWAAVPGKTFVNITPAEVGVLVGKDRSSFYVNGLTLGGQKCSVIR} \\ {\tt DSLLQDGEFSMDLRTKSTGGAPTFNVTVTKTDKTLVLLMGKEGVHGGLINKKCYEMASHLRRSQY} \\$

5056/6881 FIGURE 4667A

GGGGGGTCGGTGTGGGGTAGAATGGCCGCTGCCGCCGTCACCCGCGGGACCCCGGGAGCACÁGACTCCCCCTCCC CCCGGCCCTCAGGCCGGGGTGACCTTGCCCCCTGGAGCCCTCACCATGAATACCAAGGACACCACCGAGGTTG CTGAAAACAGCCACCTGAAGATCTTTCTCCCCAAGAAGCTGCTGGAGTGTCTTCCTCGCTGCCGCTGCTGC GGCTGTCTTGTGCCCCAAAGACAAGGCCTCAGAATGGCTCCATCATCCTCTACAATCGCAAGAAGGTGAAATATC GGAAGGATGGTTACCTCTGGAAGAAGCCGGAAGGATGGGAAGACCACCCGAGAGGACCACATGAAGCTGAAGGTCC AGGGCATGGAGTGTCTCTATGGCTGCTACGTTCACTCTTCCATCGTCCCCACATTCCATCGGCGCTGCTACTGGC TGCTCCAGAACCCTGACATCGTCCTTGTGCACTACCTGAACGTCCCAGCCCTGGAGGACTGTGGAAAGGGCTGCA GCCCCATCTTTTGTTCCATCAGCAGCGACCGTCGAGAGTGGCTGAAGTGGTCCCGGGAGGAGTTGTTGGGACAGC TGAAGCCCATGTTTCATGGCATCAAGTGGAGCTGCGGGAATGGAACAGAAGAGTTCTCTGTAGAACACCTGGTGC AGCAGATTTTGGACACCCACCCAACCAAGCCTGCTCCCCGAACCCACGCCTGTCTCTGCAGTGGGGGGGCTTGGTT CTGGGAGCCTTACCCACAAATGCAGCAGCACGAAACACCGCATCATCTCTCCCAAAGTGGAGCCCCGAGCTTTAA CCCTGACCTCTATCCCCCACGCTCACCCCCCAGAGCCTCCTCCACTGATAGCCCCACTTCCCCCAGAGCTCCCCA AGGCACACACCTCCCCATCTTCTTCCTCTTCCTCCTCATCAGGTTTTGCAGAGCCCCTAGAAATCAGACCTA GCCCTCCCACTTCTCGAGGGGGTTCTTCAAGAGGAGGCACTGCTATCCTCCTCCTGACAGGACTGGAGCAGCGGG CTGGAGGCTTGACGCCCACCAGGCACTTGGCTCCACAGGCTGATCCTAGGCCTTCCATGAGTTTGGCAGTGGTTG TAGGCACTGAGCCTTCTGCCCCACCAGCTCCTCCCAGTCCTGCCTTTGACCCTGATCGTTTTCTCAACAGCCCCC AGAGGGCCAGACATATGGAGGGGGGCAGGGAGTAAGCCCAGACTTCCCCGAGGCAGAGGCCGCTCATACCCCCT GTGGGAGAAGAGGAAACTGCTTCTTCATCCAAGATGATGACAGTGGGGAGGAGCTCAAGGGTCACGGGGCTGCCC CACCCATACCTTCACCCCTCCCTCACCCCCACCCTCACCTGCCCCCTTGGAGCCGTCAAGCAGGGTAGGAAGAG GAGAGGCCTTGTTTGGAGGACCTGTTGGGGCCAGTGAACTGGAGCCCTTCAGTCTTTCATCATTCCCAGACCTTA TGGGAGAACTCATCAGTGACGAAGCTCCAAGCATCCCTGCTCCGACCCCCAGCTGTCTCCTGCTCTTAGCACCA TCACAGACTTCTCCCCAGAGTGGTCCTACCCAGAGGGTGGGGTCAAGGTGCTCATCACAGGTCCTTGGACCGAAG CCGCCGAGCATTACTCCTGTGTCTTTGATCACATCGCAGTGCCAGCCTCACTTGTCCAGCCTGGTGTCTTACGCT GCTACTGTCCCGCCCATGAGGTAGGGCTGGTGTCTTTGCAGGTGGCAGGGCGGGAGGGGCCCCCTTTCTGCTTCTG TGCTCTTTGAGTATCGAGCCCGCCGATTCCTGTCTCTGCCTAGTACTCAACTTGACTGGCTGTCACTGGACGACA ACCAGTTCCGGATGTCCATACTAGAGCGACTGGAGCAGATGGAGAAGCGGATGGCAGAGATCGCAGCAGCTGGGC AGGTGCCTTGCCAGGGTCCTGATGCTCCTCCAGTTCAGGATGAAGGCCAGGGGCCTGGGTTCGAAGCACGGGTAG TGGTCTTGGTAGAAAGCATGATCCCACGCTCCACCTGGAAGGGTCCTGAACGTCTGGCCCATGGAAGCCCCTTCC GGGGCATGAGCCTTCTGCACCTGGCTGCCCCAGGGCTATGCCCGCCTCATCGAGACCCTGAGCCAGTGGCGGA GTGTGGAGACTGGAAGCTTGGACTTAGAGCAGGAGGTTGACCCGCTCAACGTGGATCATTTCTCTTGCACCCCTC TGATGTGGGCTTGTGCCCTGGGACACCTGGAAGCTGCTGTGCTCCTTTTCCGTTGGAACCGACAGGCACTGAGCA TTCCCGACTCTCTGGGCCGTCTGCCATTGTCTGTGGCTCATTCCCGGGGTCATGTGCGCCTTGCCCGCTGCCTTG AGGAACTACAGAGACAGGAGCCTTCGGTGGAGCCCCCATTTGCCCTATCGCCACCCTCCTCCAGCCCAGACACTG GTCTGAGCAGCGTCTCCTCGCCCTCGGAGCTGTCGGATGGCACCTTTTCCGTCACGTCAGCCTATTCTAGTGCCC CAGATGGCAGTCCCCCCCTGCACCTCTGCCAGCCTCTGAGATGACTATGGAGGACATGGCCCCAGGCCAGCTTT CCTCTGGTGTCCCAGAAGCCCCCCTACTCCTCATGGACTATGAGGCTACCAACTCCAAGGGGCCCCTCTCCTCCC TTCCTGCCCTCCCACCAGCTTCAGATGATGGGGCTGCTCCAGAGGACGCTGACAGCCCCACAGGCTGTGGATGTGA TCCCGGTGGACATGATCTCACTAGCCAAGCAGATCATCGAAGCCACACCGGAGCGGATTAAACGAGAGGACTTCG TGGGGCTGCCCGAGGCTGGAGCCTCAATGCGGGAGCGGACAGGGGCTGTGGGGCTCAGTGAGACCATGTCCTGGC TGGCCAGCTACCTGGAGAATGTGGACCATTTCCCCAGCTCAACCCCTCCCAGCGAACTGCCCTTTGAGCGAGGTC GCCTGGCTGTCCCTTCAGCACCCTCCTGGGCAGAGTTTCTCTCTGCATCCACCAGTGGCAAGATGGAAAGTGATT TTGCCCTGCTGACACTATCAGATCACGAGCAGCGGGAACTGTATGAGGCTGCCCGAGTCATCCAGACGGCCTTCC GAAAGTACAAGGGCCGGCGGTGAAGGAGCAGCAGGAGGTAGCAGCAGCTGTAATCCAGCGCTGTTACCGGAAGT ACAAGCAGCTGACCTGGATTGCACTTAAGTTTGCACTCTATAAGAAGATGACCCAGGCGGCCATCCTGATCCAGA GCAAGTTCCGAAGCTACTATGAACAGAAGCGATTTCAGCAGAGCCGCCGAGCGGCTGTGCTCATCCAGCAGCACT

5057/6881 FIGURE 4667B

MNTKDTTEVAENSHHLKIFLPKKLLECLPRCPLLPPERLRWNTNEEIASYLITFEKHDEWLSCAPKTRPQNGSII LYNRKKVKYRKDGYLWKKRKDGKTTREDHMKLKVQGMECLYGCYVHSSIVPTFHRRCYWLLQNPDIVLVHYLNVP ALEDCGKGCSPIFCSISSDRREWLKWSREELLGQLKPMFHGIKWSCGNGTEEFSVEHLVQQILDTHPTKPAPRTH ACLCSGGLGSGSLTHKCSSTKHRIISPKVEPRALTLTSIPHAHPPEPPPLIAPLPPELPKAHTSPSSSSSSSSS FAEPLEIRPSPPTSRGGSSRGGTAILLLTGLEORAGGLTPTRHLAPQADPRPSMSLAVVVGTEPSAPPAPPSPAF DPDRFLNSPQRGQTYGGGQGVSPDFPEAEAAHTPCSALEPAAALEPQAAARGPPPQSVAGGRRGNCFFIQDDDSG EELKGHGAAPPIPSPPPSPAPLEPSSRVGRGEALFGGPVGASELEPFSLSSFPDLMGELISDEAPSIPAPT PQLSPALSTITDFSPEWSYPEGGVKVLITGPWTEAAEHYSCVFDHIAVPASLVQPGVLRCYCPAHEVGLVSLQVA GREGPLSASVLFEYRARRFLSLPSTQLDWLSLDDNQFRMSILERLEQMEKRMAEIAAAGQVPCQGPDAPPVQDEG OGPGFEARVVVLVESMIPRSTWKGPERLAHGSPFRGMSLLHLAAAQGYARLIETLSQWRSVETGSLDLEQEVDPL NVDHFSCTPLMWACALGHLEAAVLLFRWNRQALSIPDSLGRLPLSVAHSRGHVRLARCLEELQRQEPSVEPPFAL SPPSSSPDTGLSSVSSPSELSDGTFSVTSAYSSAPDGSPPPAPLPASEMTMEDMAPGQLSSGVPEAPLLLMDYEA TNSKGPLSSLPALPPASDDGAAPEDADSPQAVDVIPVDMISLAKQIIEATPERIKREDFVGLPEAGASMRERTGA VGLSETMSWLASYLENVDHFPSSTPPSELPFERGRLAVPSAPSWAEFLSASTSGKMESDFALLTLSDHEQRELYE AARVIOTAFRKYKGRRLKEQQEVAAAVIQRCYRKYKQLTWIALKFALYKKMTQAAILIQSKFRSYYEQKRFQQSR RAAVLIQQHYRSYRRRPGPPHRTSATLPARNKGSFLTKKQDQAARKIMRFLRRCRHRMRELKQNQELEGLPQPGL

AGGACGTGGGCGTGCAGGACGCGGGCGTGCAGGACGCCAGAGCTGGGTCAGAGCTCGAGCCAGCGGCGCCCCGGAG GGCTCTGGACAAGTCAGATTCCCACCCCTCTGACGCTCTGACCAGGAAAAAACCGGCCAAGGCGGAATCTAAGTC GCAGACACAGTTTCTTAAAGAGCTGGTGGAGCCTGTGTCCCGTTTCTTCGAGGAAGTGAACGATCCCGCCAAGAA TGACGCTCTGGAGATGGTGGAGGAGCCACTTGGCAGGGCCTCAAGGAGCTGGGGGCCTTTGGTCTGCAAGTGCC TGGCGTGGGCATTACCCTGGGGGCCCCATCAGAGCATCGGTTTCAAAGGCATCCTGCTCTTTGGCACAAAGGCCCCA GAAAGAAAAATACCTCCCCAAGCTGGCATCTGGGGAGACTGTGGCCGCTTTCTGTCTAACCGAGCCCTCAAGCGG GTCAGATGCAGCCTCCATCCGAACCTCTGCTGTGCCCAGCCCCTGTGGAAAATACTATACCCTCAATGGAAGCAA GCTTTGGATCAGTAATGGGGGCCTAGCAGACATCTTCACGGTCTTTGCCAAGACACCAGTTACAGATCCAGCCAC AGGAGCCGTGAAGGAGAAGATCACAGCTTTTGTGGTGGAGAGGGGCTTCGGGGGCATTACCCATGGGCCCCCTGA GAAGAAGATGGGCATCAAGGCTTCAAACACAGCAGAGGTGTTCTTTGATGGAGTACGGGTGCCATCGGAGAACGT GCTGGGTGAGGTTGGGAGTGGCTTCAAGGTTGCCATGCACATCCTCAACAATGGAAGGTTTGGCATGGCTGCGGC CCTGGCAGGTACCATGAGAGGCATCATTGCTAAGGCGGTAGATCATGCCACTAATCGTACCCAGTTTGGGGAGAA AATTCACAACTTTGGGCTGATCCAGGAGAAGCTGGCACGGATGGTTATGCTGCAGTATGTAACTGAGTCCATGGC TTACATGGTGAGTGCTAACATGGACCAGGGAGCCACGGACTTCCAGATAGAGGCCGCCATCAGCAAAATCTTTGG CTCGGAGGCAGCCTGGAAGGTGACAGATGAATGCATCCAAATCATGGGGGGTATGGGCTTCATGAAGGAACCTGG AGTAGAGCGTGTGCTCCGAGATCTTCGCATCTTCCGGATCTTTGAGGGGACAAATGACATTCTTCGGCTGTTTGT GGCTCTGCAGGGCTGTATGGACAAAGGAAAGGAGCTCTCTGGGCTTGGCAGTGCTCTAAAGAATCCCTTTGGGAA $\tt CGGACTTGTCCACCCGGAGTTGAGTCGGAGTGGCGAGCTGGCAGTACGGGCTCTGGAGCAGTTTGCCACTGTGGT$ GGAGGCCAAGCTGATAAAACACAAGAAGGGGATTGTCAATGAACAGTTTCTGCTGCAGCGGCTGGCAGACGGGGC GCATGAGAAAATGCTCTGTGACACCTGGTGTATCGAGGCTGCAGCTCGGATCCGAGAGGGCATGGCCGCCTGCA GTCTGACCCCTGGCAGCAAGAGCTCTACCGCAACTTCAAAAGCATCTCCAAGGCCTTGGTGGAGCGGGGTGGTGT GGTCACCAGCAACCCACTTGGCTTCTGAATACTCCCGGCCAGGGCCTGTCCCAGTTATGTGCCTTCCCTCAAGCC AAAGCCGAAGCCCCTTTCCTTAAGGCCCTGGTTTGTCCCGAAGGGGCCTAGTGTTCCCAGCACTGTGCCTGCTCT CAAGAGCACTTACTGCCTCGCAAATAATAAAAATTTCTAGCCAG

MQAARMAASLGRQLLRLGGGSSRLTALLGQPRPGPARRPYAGGAAQLALDKSDSHPSDALTRKKPAKAESKSFAV
GMFKGQLTTDQVFPYPSVLNEEQTQFLKELVEPVSRFFEEVNDPAKNDALEMVEETTWQGLKELGAFGLQVPSEL
GGVGLCNTQYARLVEIVGMHDLGVGITLGAHQSIGFKGILLFGTKAQKEKYLPKLASGETVAAFCLTEPSSGSDA
ASIRTSAVPSPCGKYYTLNGSKLWISNGGLADIFTVFAKTPVTDPATGAVKEKITAFVVERGFGGITHGPPEKKM
GIKASNTAEVFFDGVRVPSENVLGEVGSGFKVAMHILNNGRFGMAAALAGTMRGIIAKAVDHATNRTQFGEKIHN
FGLIQEKLARMVMLQYVTESMAYMVSANMDQGATDFQIEAAISKIFGSEAAWKVTDECIQIMGGMGFMKEPGVER
VLRDLRIFRIFEGTNDILRLFVALQGCMDKGKELSGLGSALKNPFGNAGLLLGEAGKQLRRRAGLGSGLSLSGLV
HPELSRSGELAVRALEQFATVVEAKLIKHKKGIVNEQFLLQRLADGAIDLYAMVVVLSRASRSLSEGHPTAQHEK
MLCDTWCIEAAARIREGMAALQSDPWQQELYRNFKSISKALVERGGVVTSNPLGF

5061/6881 FIGURE 4671

GAGACCATGGCGGGTAGCACTGGGGGCGGTGGGGTTGGGGAGACGAAGGTGATTTACCACCTGGATGAGGAA GAGACTCCCTACCTGGTGAAGATCCCTGTCCCCGCCGAGCGCATCACCCTCGGCGATTTCAAGAGCGTCCTGCAG ATGGCCCCTCCAGTCCATGAGGCTCGGGCAGAACTGGCGCCTCCAGCCCACCTTTACCTCCTTTGCCACCCGAG AGGACCAGCGGCATTGGGGACTCAAGGCCTCCATCCTTCCACCCTAATGTGTCCAGCAGCCATGAGAATCTGGAG CCTGAGACAGAAACCGAGTCAGTGGCGTCACTGAGGCGGGGGGCGCCTCGCAGGAGACAGCAGTGAGCATGGC GCTGGGGGCCACAGGACTGGTGGCCCCTCAAGGCTGGAGCGCCACCTGGCCGGATACGAGAGCTCCTCTACCCTC ATGACCAGCGAGCTGGAGAGTACCAGCCTGGGGGACTCGGACGAGGAGCACCATGAGCAGGTTCAGCAGCTCC AGGACGTCATCCTTCAGCAGCGTCACAGATTCCACAATGTCTCTCAATATCATCACAGTCACGCTAAACATGGAG AAGTACAACTTCCTGGGTATCTCCATTGTTGGCCAGAGCAATGAGCGGGGAGACGGAGGCATCTACATTGGCTCC ATCATGAAGGGTGGGGCTGTGGCGGCCGACGGGCGCATTGAGCCAGGGGACATGCTTTTGCAGGTGAATGACATG AACTTTGAGAACATGAGCAACGATGACGCTGTGCGGGTGCTGAGGGGACATTGTGCACAAGCCTGGCCCCATTGTG CTGACTGTGGCCAAGTGCTGGGATCCCTCTCCTCAGGCCTATTTCACTCTCCCCCGAAATGAGCCCATCCAGCCA ATTGACCCTGCTGCCTGGGTGTCCCATTCCGCGGCTCTGACTGGCACCTTCCCAGCCTATCCAGGTTCCTCCTCC ATGAGCACCATTACATCTGGATCGTCTTTGCCTGATGGCTGTGAAGGCCGGGGTCTCTCCGTCCATACGGACATG GCATCGGTGACCAAGGCCATGGCAGCTCCAGAGTCTGGACTGGAAGTCCGGGACCGCATGTGGCTCAAGATCACC ATCCCTAATGCCTTTCTGGGCTCGGATGTGGTTGACTGGCTCTACCATCACGTGGAGGGCTTTCCTGAGCGGCGG GAGGCCCGCAAGTATGCCAGCGGGCTGCTCAAAGCAGGCCTGATCCGACACCGTCAACAAGATCACCTTCTCT GAGCAGTGCTATTACGTCTTCGGAGACCTCAGTGGTGGCTGTGAGAGCTACCTAGTCAACCTGTCTCTCAATGAC AACGATGGCTCCAGTGGGGCTTCAGACCAGGATACCCTGGCTCCTCTGCCTGGGCCCACCCCCTGGCCCCTGCTG CCCACTTCCCTACCAGTACCCTGCCCCACACCCCTACAGCCCGCAGCCTCCACCCTACCATGAGCTTTCATCT TACACCTATGGTGGGGGCAGTGCCAGCAGCATAGTGAGGGCAGCCGGAGCAGTGGGTCGACACGGAGTGAT GGGGGGGCAGGCCCCCGAGGAGCCGGCCCCCGAGTCCAAGTCCGGCAGTGGCAGTGAGTCTGAG CCCTCCAGCCGAGGGGGCAGCCTTCGGCGGGGTGGGGAAGCAAGTGGGACTAGCGATGGGGGCCCTCCTCCATCC GCCCTCCCCTACAACCCCATGATGGTGGTCATGATGCCCCCACCTCCACCTCCAGTCCCTCCAGCAGTGCAGCCT GCCATGGGCAATCCCAGCGAGTTCTTTGTGGATGTTATGTAGCCCACTGTGGGGCCAGGCTGGGCCGGGCGCTCC TGGTGTGTGACTGGTGTCCTGGCCGTCATGTGCTTGCTCTTACAGTGCCTGGGCTCAGCCTACCAGCTGCTGCC ATACAGGAGATTGTGGCCACTGTGACTCTCACCAGCAGTGCCTGGTTCCTCCCCCTTCCCTCAGGGGTAGACAAG GGACCTTTGATTATTTTTAGCTTTGTTTTTTTATAAGCCTTTTTGGGGGGTTAAAATAGAGTTTCTTACATTTTTG GGACTTTTTTAATAGGCATTTCCTCTTTT

AAAAAAAAAAAAAGAGGGAGGTGGCGGCAGCGGCTAGCGGACTCGAGTCTCAACCGGGCTGAGGCGGACACTTCTG TGGAGCGAAGCAGTGGGAGCATCGAGCACTAGAGGCGGCACCGGGATCCCCGGCTCCGGGGAGGGGGGGCGCCCGGA CCGGGAGGGGGGGGGGGCGATGCTGGAAGCCATGGCGGAGCCCAGTCCCGAAGATCCACCTCCGACCCTTAAG CCAGAGACTCAGCCACCAGAGAAACGGCGGAGAACAATTGAGGATTTCAACAAATTCTGCAGTTTTGTTTTGGCA TATGCTGGTTACATTCCCCCTAGCAAAGAGGAAAGTGACTGGCCAGCCTCTGGCTCCAGCTCTCCATTGCGAGGA GAGAGTGCGGCCGACAGTGATGGCTGGGACTCGGCCCCCTCAGATCTTCGAACCATCCAGACTTTTGTTAAGAAA AAAGTGGCATCTCCTTTGTCCCCCACATCCCTGACACATACCTCCCGGCCCCCTGCTGCTGTTACCCCCGTGCCC CTTTCCCAGGGGGACCTCTCCCATCCTCCAAAGAAGACCGAAAGAACCGAAAGTTGGGGCCAGGAGCTGGG GCTGGCTTTGGGGTGCTTCGGAGGCCTCGGCCAACTCCTGGGGATGGGGAAAAGAGATCTCGAATCAAGAAGAGC AAGAAGCGGAAGTTAAAAAAGGCAGAACGGGGGGATAGACTCCCACCTCCTGGGCCTCCCAGGCACCCCAGTG ATACAGACTCTGAAGAGGAGGAGGAAGAGGAGGAAGAGAAGAAGAAGAGATGGCAACAGTGG<u>TAG</u>GGGGTG AAGCCCCAGTCCCTGTGCTGCCAACACCCCCTGAGGCTCCTAGGCCCCCTGCCACAGTGCACCCTGAAGGAGTCC CTCCTGCTGACAGTGAAAGCAAGGAGGTGGGCAGCACTGAAACAAGCCAAGATGGAGATGCCAGCTCCAGTGAAG GCGAGATGCGGGTCATGGACGAGGACATCATGGTAGAATCAGGTGATGACTCATGGGATCTGATCACATGTTACT GTCGAAAGCCCTTTGCAGGGCGGCCCATGATTGAGTGCAGCCTGTGTGGGACGTGGATCCACCTCTCCTGTGCTA AGATTAAGAAGACCAACGTCCCCGACTTCTTTTATTGCCAGAAATGCAAGGAACTGAGGCCAGATGCCCGGCGGT TAGGGGGGCCCCCAAATCTGGAGAGCCCTGATGGCACCAACTTTAGCCTGGAACTTCCAAATGACAACATGATT TGGGAACTGAGCCTCAGGGTCCTCAGCCTATCCCCTGGAGCTTGGATACTGTCTGCACTTCAAGGCAGGAATTCT TGAATCCATTACGGTTGGGGATGGGAGGCTGTCTGTGTCCCGACACATAATCTCTGTCTCTTGGACCTGCCACCA TCACTTTCTGGGTCAGGATTGGAATTGGGATGGAATGGGACAGTTGTCTATAAAACTCTAGTGTAAATATTAGCA ACTTCCCCTATTGGGCATGGCAGCTCAAAGGTGGAGTACTAGAGCCTGGCCAAGTGAGGAAAGGAAAGCAGAAAGG

5063/6881 FIGURE 4673

MLEAMAEPSPEDPPTLKPETQPPEKRRRTIEDFNKFCSFVLAYAGYIPPSKEESDWPASGSSSPLRGESAADSD GWDSAPSDLRTIQTFVKKAKSSKRRAAQAGPTQPGPPRSTFSRLQAPDSATLLEKMKLKDSLFDLDGPKVASPLS PTSLTHTSRPPAALTPVPLSQGDLSHPPRKKDRKNRKLGPGAGAGFGVLRRPRPTPGDGEKRSRIKKSKKRKLKK AERGDRLPPPGPPQAPPVIQTLKRRRKRKRKKKKRWQQW

PCT/US2003/028547

5064/6881 FIGURE 4674

5065/6881 FIGURE 4675

CCGGCGCGCCTCAGGTCGCGGGCCCTAGGCCTGGGTTGTCCTTTGCATCTGCACGTGTTCGCAGTCGTTTCC GCCTCGCCTTTCCGGCAGCTCCTGCAGCCGGCACCCCGGCTGTGCACCCGGCCCTTCGGGCTGCTCAGCGTGCGC GCAGGTTCCGAGCGGCCGGGCCTCCTGCGGCCTCGCGGACCCTGCGCCTGTGGCTGTGGCTGCGGCTCGCTG AAAACCCTCCCTAAGATGTCTGGAGGTTGGGAGCTGGAACTGAATGGGACAGAAGCGAAATTAGTGCGGAAAGTT GCCGGGGAAAAATCACGGTCACTTTCAACATTAACAACAGCATCCCACCAACATTTGATGGTGAGGAGGAACCC TCGCAAGGGCAGAAGGTTGAAGAACAGGAGCCTGAACTCACATCAACTCCCAATTTCGTGGTTGAAGTTATAAAG AATGATGACGCAAGAAGGCCCTTGTGTTGGACTGTCATTATCCAGAGGATGAGGTTGGACAAGAAGACGAGGCT GAGAGTGACATCTTCTCTATCAGGGAAGTTAGCTTTCAGTCCACTGGCGAGTCTGAATGGAAGGATACTAATTAT AACACTTTTGCAGATGAGCTGGTGGAGCTCAGCACAGCCCTGGAGCACCAGGAGTACATTACTTTTCTTGAAGAC $\tt CTCAAGAGTTTTGTCAAGAGCCAG\underline{TAG} AGCAGACAGATGCTGAAAGCCATAGTTTCATGGCAGGCTTTGGCCAGT$ GAACAAATCCTACTCTGAAGCTAGACATGTGCTTTGAAATGATTATCATCCTAATATCATGGGGGAAAAAATACC AAATTTAAATTATATGTTTTGTGTTCTCATTTATTATCATTTTTTTCTGTACAAATCTATTATTTCTAGATTTTT GTATAACATGATAGACATAAAATTGGTTTATCTCCTCC

MLPLLRCVPRVLGSSVAGLRAAAPASPFRQLLQPAPRLCTRPFGLLSVRAGSERRPGLLRPRGPCACGCGCGSLH
TDGDKAFVDFLSDEIKEERKIQKHKTLPKMSGGWELELNGTEAKLVRKVAGEKITVTFNINNSIPPTFDGEEEPS
QGQKVEEQEPELTSTPNFVVEVIKNDDGKKALVLDCHYPEDEVGQEDEAESDIFSIREVSFQSTGESEWKDTNYT
LNTDSLDWALYDHLMDFLADRGVDNTFADELVELSTALEHOEYITFLEDLKSFVKSQ

GAGCAGTTGGGCCAAGATGGCGGCCGCCGAGGGACCGGTGGGCGACCGGCGAGCTGTGGCAGACCTGGCTTCCTAA $\verb|CCACGTCGTGTTCTTGCGGCTCCGGGAGGGACTGAAAAACCAGAGTCCAACCGAAGCTGAGAAACCAGCTTCTTC|\\$ GTCGTTGCCTTCGTCGCCGCCGCCGCAGTTGCTGACGAGAAACGTGGTCTTTGGCCTCGGCGGAGAGCTTTTCCT GTGGGACGGAGAAGACAGCTCCTTCTTAGTCGTTCGCCTTCGGGGCCCCAGCGGCGGCGGCGAAGAGCCCCGCCCT GTCCCAGTACCAGAGATTGCTTTGCATAAATCCACCCCTGTTTGAAATCTATCAAGTCTTGTTAAGCCCAACACA ACATCATGTAGCACTTATAGGAATAAAAGGACTTATGGTATTAGAATTACCTAAAAGATGGGGGAAGAATTCTGA ATTTGAAGGTGGAAAATCAACAGTGAATTGTAGTACCACTCCAGTTGCGGAGAGATTTTTCACCAGTTCCACCTC TCTGACTCTAAAGCATGCTGCATGGTATCCAAGTGAAATCCTGGATCCCCACGTAGTGCTGTTAACATCAGACAA CGTAATCAGAATTTACTCACTACGTGAGCCGCAGACACCCACTAACGTGATAATACTTTCAGAAGCCGAAGAGGA AAGTCTAGTACTCAATAAAGGAAGGGCGTATACCGCATCTCTAGGAGAGACAGCAGTTGCATTTGACTTTGGGCC ATTGGCAGCAGTCCCAAAGACTCTATTTGGACAAAACGGCAAAGATGAAGTAGTGGCATACCCACTGTACATCTT ATATGAAAATGGAGAGACTTTCCTGACATACATCAGTCTGTTACACAGCCCTGGAAATATTGGAAAGCTGTTGGG CCCCAATATCTTAGTGATCGCTACTGAATCAGGAATGCTGTATCACTGTGTCGTGCTAGAAGGGGAAGAAGAAGA TGACCACACGTCAGAAAAGTCCTGGGATTCCAGGATTGACCTCATTCCTTCTGTATGTGTTTGAATGTGTTTGA GTTGGAGCTTGCTTTGAAACTGGCATCTGGAGAGGATGACCCTTTTGATTCTGACTTTTCTTGTCCAGTCAAACT TCATAGAGATCCCAAGTGTCCTTCAAGATATCACTGTACTCATGAAGCTGGTGTACATAGTGTTGGGCTAACTTG GATTCATAAACTTCACAAATTTCTTGGATCAGATGAAGAAGATAAGGATAGTTTACAGGAACTCTCTACAGAACA GATTGTACCTGACATTCTGGGACCCACGATGATCTGCATCACCAGTACCTATGAATGCCTCATATGGCCGTTATT AAGTACAGTCCATCCAGCGTCTCCCCCTGCTTTGTACTCGAGAAGATGTTGAAGTGGCAGAGTCTCCCCTCCG TGTTCTGGCTGAAACCCCAGATTCCTTTGAAAAGCATATTAGAAGCATTTTGCAACGTAGTGTTGCCAATCCAGC ATTTTTGAAAGCTTCTGAAAAGGACATAGCCCCTCCTCCTGAAGAATGCCTTCAGCTCCTCAGCAGAGCCACCCA GGTGTTCAGAGAGCAGTACATTCTCAAACAGGACTTGGCAAAGGAGGAGATTCAGCGGAGGGTCAAATTATTATG TGACCAAAAAAAGAAACAACTAGAAGATCTCAGTTATTGTCGAGAAGAGGGAAAAGTCTGCGGGAAATGGCTGA GCGTTTAGCTGACAAATATGAGGAAGCTAAAGAAAAACAAGAGGATATCATGAACAGGATGAAAAAAACTACTTCA TCAACTTCGACATTTGGGCAATGCCATCAAACAGGTTACTATGAAAAAGGATTATCAACAGCAAAAGATGGAGAA GGTGTTGAGTCTTCCAAAACCCACCATTATTCTCAGTGCCTACCAGCGAAAGTGCATTCAGTCCATCCTGAAAGA ${\tt GGAGGGTGAACATATAAGGGAAATGGTGAAGCAAATCAATGATATCCGCAATCATGTAAACTTC\underline{{\tt TGA}}{\tt CACCACCA}$ GGAGCTGACTCACACCTGAACTGAACACCATTGAAGGCTTAAACCCATATTGTAAAACAGGTAGAATTATCTAAT TTATAAAAAGGTGTTTTGATG

MAAAEGPVGDGELWQTWLPNHVVFLRLREGLKNQSPTEAEKPASSSLPSSPPPQLLTRNVVFGLGGELFLWDGED SSFLVVRLRGPSGGGEEPALSQYQRLLCINPPLFEIYQVLLSPTQHHVALIGIKGLMVLELPKRWGKNSEFEGGK STVNCSTTPVAERFFTSSTSLTLKHAAWYPSEILDPHVVLLTSDNVIRIYSLREPQTPTNVIILSEAEEESLVLN KGRAYTASLGETAVAFDFGPLAAVPKTLFGQNGKDEVVAYPLYILYENGETFLTYISLLHSPGNIGKLLGPLPMH PAAEDNYGYDACAVLCLPCVPNILVIATESGMLYHCVVLEGEEEDDHTSEKSWDSRIDLIPSLYVFECVELELAL KLASGEDDPFDSDFSCPVKLHRDPKCPSRYHCTHEAGVHSVGLTWIHKLHKFLGSDEEDKDSLQELSTEQKCFVE HILCTKPLPCRQPAPIRGFWIVPDILGPTMICITSTYECLIWPLLSTVHPASPPLLCTREDVEVAESPLRVLAET PDSFEKHIRSILQRSVANPAFLKASEKDIAPPPEECLQLLSRATQVFREQYILKQDLAKEEIQRRVKLLCDQKKK QLEDLSYCREERKSLREMAERLADKYEEAKEKQEDIMNRMKKLLHSFHSELPVLSDSERDMKKELQLIPDQLRHL GNAIKQVTMKKDYQQQKMEKVLSLPKPTIILSAYQRKCIQSILKEEGEHIREMVKQINDIRNHVNF

5070/6881 FIGURE 4680A

GGTCAGCGGAGGGTTTGCTCCGTCTCTTGGTGAACTTGAACAGAGGCAGAGGCAAAAGCAAAACATTTCTGCGCC CCAGGCGAGCACAGGCAGGTGCCAGGAGCCAGGATGCAAGGATGACGCCTCCGGAGGCCCTGGCCTCACTCCCAC CTGGGCGCTAGGAGCCATCCCGGGGCTCCAGCCAGGAGCCCTGCTGCCCAGGGGCAXTGGCCAAACCTTTCTTCC GACTCCAGAAGTTTCTCCGCCGAACACAGTTCCTGCTGTTXCTTCCTCAXCGGCTGCCTACCTGATGACCGGCAG CCTGCTGCTGCAGCGGGTCCGCGTXGGCTCTCCCACAGGGCCCCCGGGCACCCGGCCCCCTGCAGACCTTGC CAGTGGCCGCCGTGGCGTGGGCTTGCTGGACAGCAGAGCCCTGCACGACCCTCGAGTCAGCCCAGAGC AACTCGGAGCTGCGTCAGTTGCGTCGCCGCTGGTTCCACCACTTCATGAGTGACTCCCAGGGACCGCCCCTG GGCCCCGAGGCTGCCAGGCCGCCATCCACAGCCGAGGCACCTACATTGGATGCTTCAGTGACGATGGCCACGAG AGGACTCTGAAAGGAGCTGTGTTTTATGACTTGAGAAAGATGACTGTCTCCCACTGCCAGGATGCGTGTGCTGAĢ GGGCTGGAÅGAGTGTAACCATGAGTGCAAAGGCGAGAAGGGCTCTGTGTGCGGGGCTGTGGACCGGCTCTCCGTG GAGAACATCACACATGCCTTCCCCAGCTCCCTGATACAGGCCAATGTGACCGTGGGGACTTGCTCGGGCTTTTGT TCCCAGAAAGAGTTCCCCTTGGCCATTCTCAGGGGCTGGGAATGCTACTGTGCTTACCCTACCCCCGGTTCAAC CTGCGGGATGCCATGGACAGCTCAGTATGTGGCCAGGACCCTGAGGCACAGAGGCTGGCAGAATACTGTGAGGTC TACCAGACACCTGTGCAAGACACTCGTTGTACAGACAGGAGGTTCCTGCCTAACAAATCCAAAGTGTTTGTGGCT TTGTCAAGCTTCCCAGGAGCCGGGAACACTGGGCACGCCCCTCATTGAGCATGCCACTGGCTTCTATACAGGG AGCTACTACTTTGATGGAACCCTCTACAACAAAGGGTTCAAGGGCGAAAAGGACCACTGGCGGAGCCGACGCACC ATCTGTGTCAAAACCCACGAGAGTGGCAGGAGGGAGATTGAGTGTTTGATTCAGCCATCCTGCTAATCCGGAAC CCATACAGGTCCCTGGTGGCAGAATTCAACAGAAAATGTGCCGGGCACCTGGGATATGCAGCTGACCGCAACTGG AAGAGCAAAGAGTGGCCGGACTTTGTCAACAGCTACGCCTCGTGGTGGTCCTCGCACGTCCTGGACTGGCTCAAG TACGGGAAGCGGCTGCTGGTGCTCCACTACGAGGAGCTGCGGCGCAGCCTGGTGCCCACGTTACGGGAGATGGTG GCCTTCCTCAACGTGTCTGTGAGCGAGGAGCGGCTGCTCTGCGTGGAGAACAACAAGGAGGGCAGCTTCCGGCGG CGCGGCCGCGCTCCCACGACCCTGAGCCCTTCACCCCGGAGATGAAAGACTTGATCAATGGCTACATCCGGACG GTGGACCAAGCCCTGCGTGACCACAACTGGACGGGGCTGCCCAGGGAGTATGTGCCCAGATGATAGGCCTGGCCC ACGCCGCCCCCCCTGAGTGACGCAATCGCACCACGGGGCTGCGCTCCCCACTCTGATGCTCAGGCCCGTGGC CTCACTGGGACGAACGGTGGGTGGGGGGCTCACCCTGGTGCTGCCTCCCGCACAAGGAGACCTGGACACAACAGA CACACATCACAAGGCGAACACAAATGGACACACATACCTGGCCACGAACCCACACCTCCTCAGACACTCAGACAC ACAGATACACGTGCGCTCCCTGGGATCCGGGAGGCCCTGGGCTTCCTGTGTGTAGCCCTGGCATAGACTTGCTCG TCAGGGTGTTCGACTCTGGGATGCTGGGCCGGCAGACATTTATGCTCTGAGCAGCAAGGACCATTGGGATGGAG GGGTTGAGGACTGCCCCCCCCCCCCCCAAGCCAATGCAGACACTGACCTCAAGACCAGCCACACCAAGTCTGTG CACTGCCCACCCCCTTCAACCCCTCCTACACCATGCTCCGGGGCCTGGGGCCTCCTTGCCTGCTTCTTCCT CCAGCTATCCTCAGGGAAGCTGGAGATTCAAGTCATGCCCCAGAAGCAAGGTGTAAGCATGGGGGCGTGGGGAAG AGGGCAGGAGCTGAAGTTCCAGGGGAGCCCAGGACCCCTGGGGACCTGTACACTAGCAGGATGGGTCTTGGGAGT TGGCATGGGGAGATTGTAAGGGCTGTATCTCCGCGATTACTGGTACTGGTGCTCCACCCATAGGGGCCCTGTTCT CTCTGGGGTCCCACACTGGGGTCATGAGAGCTAGTTAGTACTCAGCCTGACCCCTAGGTCTGGTCCTGCCAGCCT GGGATGGGGGTCAATGTATGCTACACATCTTGGGCTCACAAGTGAGGCTGTGGAGGCCAGGAGGTTCAAGTATGG AGGGTAGGAGTGCAACCCAGGAGCAACGCTCAAGGTGGCCGAGATGCAGGGAGGATTGTGGCGATCCGGTTGCAC AGGCCTAGGATAACCCTGGCCAGGCCCCATGGTCCTGCTCTGGGTCAGCTGTCAGGGAGACCTCCCTTCAGCCTG AGCCAAGCTGCATTGGGAGGAGAAGGCAGGGTGAGGGATCTGGGAGGACGTGGAGATATCCTGACCCTCT

5071/6881 FIGURE 4680B

GCTTCCTAGCCTGATGATGGGGAACCCAGAGCCACCCGCTATGAGCACAGGCCGGGGGTGGAAGGCCCAGTAGAG GTGGCCTCCAAATCCTTCCTGGGATTCCCCCAAACCCACACTGATGCGAAGCTGTTCTTGACCCTCCCATAGCAT CAACTCAGTTCAGCTCAAAGCTAGAAACACCAAGGTCTTTGAAAATGTTTATTGGCTCAGGATAGCTTCGGCATC CAATCTGCGAAGGCCCCTGATGGAGCTATTTCTTCCTAGTATCAGGAGCAATTGAGACCCCTCAGGAGTTTCCAC ACTGCTGTGGACGGGATAGCCAGGGCAGACCTGCATCCCAGAGCCAAGCCTAGATCCTTGAAAGCAATGTCAGGCG TGGCAGTGGGGAAGCCATGGAGGCTGGGAAGGGCAAAGTGTGGAGAGAGGAGTGACCGGGACTGGAGCCAGGGTC TGGGGAGAGCAACAGCACCAGGCTTTTCCTGGTAGTTGGATTGGTACATTCACTGCCAGGTACCCAGAGATG TCATCTCTCCAGGTAGAGCATCACCAGCTCCTGTGGCCTTGTAGATGACTCTGTACCTCAGTGAAGAGTGCAG GCAGGTACTCCTGGATGTTGATGAGCAAGGAAGAGCAACGGCCCTGTCAGCTGGCAGTGGTCCTCACAGCCTTCA TTGTTTTTCTCCAAGTTAGGTCTCATCTACAGCTCTTAGCTTCTCAGTAAAGAGGATACTCTCCCAACCAGCCAA ACCCTGACTGTCTACAGATTCCAACTTTAATAGCAAGCCTGTGGAGTTACACAAACCTGTGTTAAAACATGTAAT TTTTATGGATTTCATCTCCCGTTGTGGATCAATTTTGGAAAAACCAAAATATGTAATTTTAAAAAAACTAAAACACA TCCTGGTAGTCCCAGTGATGTGTAAATGAGAGAGAAGAATAGACAGGCTTCCAAACCCTGGGAAGAAAGCTGCTT AATTATGTGAACATCTTATAATGAAGTCTCTTGCAGCTAAAATTAGATTTTGAGTGCATGAATCTGTGATAATGT TTGCATATCAGAATGCATTCTCCCCTTAAAAGTAGCAGTAGCCACTTGGTTCTTAGGGGGCCCCAAGAGGAGAGAG ACCCATTGGAGGTATCTGAAATGTGATGACTCCAAAGGGGTTCATTTCACTATAGGGAGAAATTGATTCGTCTGA CTTCCTATTTATCACCACTCAATATTGGGTGAGTTGGTCTGAACAAGGTGGGGATAAAGTAGAGTGGAAATAATG TAGAGTCGTCAGACTGAAAGGCCAGGTTGTAGTCCCAGCTCTTATCTGCCATCTTGGACAAAGCTTTTCCCATCT TTCCTTTCCCAGCAACCCCCCATTTCTGTTTGGGAATTCATATGATCTGCCAGAGCCTCTCCAGGGGTGGAATAC ATGTCCTGGACTAAGCCAATGACACCTTCCATCTTTCCAGCTATGGTGACTGGGTTAGGTATGATCTTGTGAGTT **AAGACAATGAAGCCAGAGGGAATTTCAAGACTTATGGGAATGCTGGGTAGAAGCTGTTTTAATTCCCCTGTTGAA** TGTGAAAAAGGTAGTAGTATTCCTGGGTCTTTATGATGACCACCTTGGGCCTTGGGATCATGACCAGGAATCACG TGAAGCTGACACCACTGAAGGGAGAGTTGAGAGGCAGAAAGAGATCAAGTCCTTGGTGAAATTGTTTAAGTACAG

MAKPFFRLQKFLRRTQFLLFFLTAAYLMTGSLLLLQRVRVALPQGPRAPGPLQTLPVAAVALGVGLLDSRALHDP RVSPELLLGVDMLQSPLTRPRPGPRWLRSRNSELRQLRRRWFHHFMSDSQGPPALGPEAARPAIHSRGTYIGCFS DDGHERTLKGAVFYDLRKMTVSHCQDACAERSYVYAGLEAGAECYCGNRLPAVSVGLEECNHECKGEKGSVCGAV DRLSVYRVDELQPGSRKRRTATYRGCFRLPENITHAFPSSLIQANVTVGTCSGFCSQKEFPLAILRGWECYCAYP TPRFNLRDAMDSSVCGQDPEAQRLAEYCEVYQTPVQDTRCTDRRFLPNKSKVFVALSSFPGAGNTWARHLIEHAT GFYTGSYYFDGTLYNKGFKGEKDHWRSRRTICVKTHESGRREIEMFDSAILLIRNPYRSLVAEFNRKCAGHLGYA ADRNWKSKEWPDFVNSYASWWSSHVLDWLKYGKRLLVVHYEELRRSLVPTLREMVAFLNVSVSEERLLCVENNKE GSFRRRGRRSHDPEPFTPEMKDLINGYIRTVDQALRDHNWTGLPREYVPR

CTTAGTGGTGTCGGGGTCTAGTGGACAGAGAGACTCTTGGCCAGGCAGATGGCTTCTCGGTGGCAGAACATGGG GACCTCCGTGCGCCGGAGATCTCTCCAGCACCAGGAGCAGCTGGAGGACAGCAAGGAGCTGCAGCCTGTGGTCAG CCATCAGGAGACCTCTGTAGGGGCCCTGGGGTCCCTGTGCAGACAGTTCCAAAGGAGGCTGCCCCTGAGAACCGT CAACCTCAACCTCCGCGCAGGGCCCTCCTGGAAACGCCTGGAAACCCCAGAGCCAGGTCAGCAGGGCCTCCAGGC TGCAGCTCGCTCAGCTAAGAGTGCTTTGGGTGCCGTGTCCCAGAGAATCCAGGAGTCCTGCCAAAGTGGCACCAA GTGGCTGGTGGAGACCCAGGTGAAGGCCAGGAGGCGGAAGAGGAGCACAGAAGGGCAGTGGATCCCCAACTCA CAGCCTGAGCCAGAAGAGCACCCGGCTGTCTGGAGCCGCCCTGCCCACTCAGCCGCAGACCCCTGGGAGAAGGA GAGCCCCTACTCCTCAACAGAGCCCCTCTGCTCTCCCAGCGAGTCTGACAGTGACCTAGAGCCTGTGGGGGCGGG AATTCAGCATCTCCAGAAGCTGTCCCAAGAGCTAGATGAAGCCATTATGGCGGAAGAGAGTGGTGACATCGTCTC TCTCATTCATGAC<u>TGA</u>GGAAGTGCCTGCAGGAAACAAGCCCTGTCTGACCGCCAAGGCTTCATACTCAAGGATGT CTATECTTCCCCGTGTGCTTCCTGGAAAAAACCCCCGGGAGTCGTCAGTACCCCTGGGCCACTGCTAACAAGCAC GTCTTGGGGAGACCTTGCAGAGGGGGAGAATTGTTCCTTCTGCTTTCCTAGGGGACTCTTGAGCTTAGAAACTCA TCGTACACTTGACCTTGAGCCTTCTATTTGCCTCATCTATAACATGAAGTGCTAGCATCAGATATTTGAGAGCTC AGGCTCTTGAGGGCCCCACTCTCATCCCTCCTTTCCCTACCAGGGACTCGGAGGAAGGCATAGGAGATATTTCCA GGCTTACGACCCTGGGCTCACGGGTACCTATTTATATGCTCAGTGCAGAGCACTGTGGATGTGCCAGGAGGGGTA CAGCATGTGACTTTCCTAGATAACACTGCTTTCTCATAATAAAGACTATTTGCATTTG

MASRWQNMGTSVRRRSLQHQEQLEDSKELQPVVSHQETSVGALGSLCRQFQRRLPLRTVNLNLRAGPSWKRLETP EPGQQGLQAAARSAKSALGAVSQRIQESCQSGTKWLVETQVKARRRKRGAQKGSGSPTHSLSQKSTRLSGAAPAH SAADPWEKEHHRLSVRMGSHAHPLRRSRREAAFRSPYSSTEPLCSPSESDSDLEPVGAGIQHLQKLSQELDEAIM AEESGDIVSLIHD

ATGGATGCCGCTCTGCTCCTGAACGTGGAAGGGGTCAAGAAAACCATTCTGCACGGGGGCACGGGCGAGCTCCCA AACTTCATCACCGGATCCCGAGTGATCTTTCATTTCCGCACCATGAAATGTGATGAGGAGCGGACAGTCATTGAC GACAGTCGGCAGGTGGGCCAGCCCATGCACATCATCATCGGAAACATGTTCAAGCTCGAGGTCTGGGAGATCCTG CTTACCTCCATGCGGGTGCACGAGGTGGCCGAGTTCTGGTGCGACACCATCCACACGGGGGTCTACCCCATCCTA TCCCGGAGCCTGAGGCAGATGGCCCAGGGCAAGGACCCCACAGAGTGGCACGTGCACACGTGCGGCTGGCCAAC ATGTTCGCCTACCACACGCTGGGCTACGAGGACCTGGACGAGCTGCAGAAGGAGCCTCAGCCTCTGGTCTTTGTG ATCGAGCTGCTGCAGGTTGATGCCCCGAGTGATTACCAGAGGGAGACCTGGAACCTGAGCAATCATGAGAAGATG AAGGCGGTGCCCGTCCTCCACGGAGAGGGAAATCGGCTCTTCAAGCTGGGCCGCTACGAGGAGGCCTCTTCCAAG TACCAGGAGGCCATCATCTGCCTAAGGAACCTGCAGACCAAGGAGAGCCATGGGAGGTGCAGTGGCTGAAGCTG GAGAAGATGATCAATACTCTGATCCTCAACTACTGCCAGTGCCTGCAAGAAGGAGGAGGAGTACTATGAGGTGCTG GAGGTGTGGAATGAGGCCGAGGCCAAGGCGGACCTCCAGAAAGTGCTGGAGCTGGAGCCGTCCATGCAGAAGGCG GTGCGCAGGGAGCTGAGGCTGCTGGAGAACCGCATGGCGGAGAAGCAGGAGGAGGAGCGGCTGCCGGAAC CCTGCAGAGCCACCACAGCACCATCTGCAGAGCTGTCCGCAGGGCCCCCTGCAGAGCCACAGAGCCACCC CCGTCCCAGGGCACTCGCTGCAGCACTGAGCCCCCTGAGGCCCACAGCCACGGCAGGGAGCAAGTGGCCTG AGACACCCCATGGTAAAAAAAAAAAAAAAAACAATCCCAAGGGTACAGAAGAGCTTATGAATAAAAGTAGTTTT CTCCTCTACCCCTCTCATTCCTTCCGTGCCATGGTTTTAATTGACCCTGTTTTTAATTCTTCTGGTAGTTTTCTC TATTTCCAAGTAATCTGTTTAAATCAGTTTCTAGATTTTACCCCATGTCAATGACAAATGAGGATTTGATGCTCT GATCCTTTCTCATGCCTGATACCCCTCCCTGTCTCCCCATTTTGGATAGTTACATTTGGGGGTCATCTCGGTGAT TTTTGTAACTTTACGCAGGACACTTAGAGCTCTCTAGAATCCCACTGACTTTAGTGGGTCTTGATGTAGGGTGGG CAAGCCCCGACACTGGAGCTTAGCCTGAGAGGGTTCTTG

MDAALLLNVEGVKKTILHGGTGELPNFITGSRVIFHFRTMKCDEERTVIDDSRQVGQPMHIIIGNMFKLEVWEIL LTSMRVHEVAEFWCDTIHTGVYPILSRSLRQMAQGKDPTEWHVHTCGLANMFAYHTLGYEDLDELQKEPQPLVFV IELLQVDAPSDYQRETWNLSNHEKMKAVPVLHGEGNRLFKLGRYEEASSKYQEAIICLRNLQTKEKPWEVQWLKL EKMINTLILNYCQCLLKKEEYYEVLEHTSDILRHHPGIVKAYYVRARAHAEVWNEAEAKADLQKVLELEPSMQKA VRRELRLLENRMAEKQEEERLRCRNMLSQGATQPPAEPPTEPPAQSSTEPPAEPPTAPSAELSAGPPAEPATEPP PSPGHSLQH

GGCCAGCGGGCCGGXGCCCCTXCGXCCTXCCCACCCAGGCGCTGAGCACGCACGXCCGCCGGCCTGGTGTTT $\tt CGGXCGGGGGCCCGGGACCAGCCGCCGCCTTCTCCAGGCGCTCCTACTCTCTGGGCATCTGCAGTCCGAGCGGAA$ GGGGCGGGAAXCGTCGGCGACGCCGAGGGAGCAAAGCCCACGATCGGCTTCCCGGGGCAGCGGACGGCTGCCTTC CTCCCGCCCAAACGCACCGCCCAGGAGGGGGCCGGGCTCGGCGGGTCGGGGGGCCGGGGTCCGAGCTCGG GCCCXGCCTCCGCCAGCTCCTGTGAGCTGCCGAGTGCTAGGCACCCGGGCTCTTCTGGGGGGCTCCAGAA CTAAGCCACCCAGACACCATCATCCCGAAAACCCCAGCCCTTCTCCCATGGCAGGCTACTTGCCCCCCCAAAGGX TACGCCCCTTCGCCCCACCTCCCTACCCTGTCACCCCTGGGTACCCGGAGCCGGCGCTACATCCTGGGXCCCGG GCAGGCGCCAGTGCCCGGCCAGGTACCTGCCCCAGXCTCCCGGCTTCGCCCTCTTCCCCTCGCCTGGCCCCGTGG $\verb|CCTTGGGGTCTGCCCCCTTCTTGCCACTGCCAGGGGTGCCTTCTGGCCTCGAATTCCTGGTGCAGATTGATC| \\$ AGATTTTGATTCACCAGAAGGCTGAGCGAGTGGAAAATGGAAGTACAGGCTCCACCAGGCACCACTTGGCCAC GTGGGGCCCTGCTGGACCTGTGGCTGTGGCACAGACACCAACTTTGAGGTGAAGACXTCGGGATGAATCCCGCAG TGTGGGCCGCATCAGCAAGCAGTGGGGGGGCCTGGTCCGAGAAGCCCTCACAGATGCAGATGACTTTGGCCTACA GTTCCCGCTGGACCXXXTGGAXTXGXXXTGXAGGGTGAAGGCTGTGCTGCTGGGAGCCACATTCCTCATTGACTA CATGTTCTTTGAGAAGCGAGGAGGCGCTGGGCCCTCTGCCATCACCAGTTAGAGGCCACCATGGTGTGAGGAGAC CATCACCTCGACCAGAACTCCAGATGGTCACCTGCCCTGGCCCCTCTCTGGGCAGCCCCTTTCCTCCATGTACA CTGCAGGGGACAGXAAGGGGGGCCCCATCCCTACCCTACTCCCTGGCCGCCTGXCCCCTGTGGTTCCCAAGGAGG GGTATGTATGAGAGCCGCTCTCCTGCTACCTXCCCACCACTGTCCCAGCAGTCCCTCGGCACACAGGCATATCAG CTTTCACACTTTCCCCATGCACTCTCCCACCCCCTTCCAGGGCCTCTGCTCCAAAGGAGGCCTCTGGAACCCA GGACTCTGGGGTTTTACAAGXAGGGCTGGGGTGTGGAAGGGCAAGCTGCACCAAAGACGGTGGATATAGCCACCG $\verb|CCCCCCGCCGCTGCCTAGCATCTGCTTGGCCAATTAGTTCAGCCTCAGACCATGGCACTTTGAGGGGGTCTCTA|\\$ CCTCCCCATCAACAGCTGCAGGGGGACCCCAGTGCCAACTTCCTCTCCCAXCTAGGGCCCTGCCTTCAGCTGGTG GTTACATTCATATAAACTTTGTAACTTTTTGGACATTG

 $\verb|CTAGTTTCTAAGGATC| \textbf{ATG} \verb|TCTGCGAGCCAGGATTCCCGATCCAGAGACAATGGCCCCGATGGGATGGAGCCCGA$ AGGCGTCATCGAGAGTAACTGGAATGAGATTGTTGACAGCTTTGATGACATGAACCTCTCGGAGTCCCTTCTCCG TGATGTGATTGCTCAAGCCCAATCTGGGACTGGGAAAACGGCCACATTTGCCATATCGATTCTGCAGCAGATTGA ATTAGATCTAAAAGCCACCCAGGCCTTGGTCCTAGCACCCACTCGAGAATTGGCTCAGCAGATACAGAAGGTGGT GAAACTGCAGATGGAAGCTCCCCACATCATCGTGGGTACCCCTGGCCGTGTGTTTGATATGCTTAACCGGAGATA CCTGTCCCCCAAATACATCAAGATGTTTGTACTGGATGAAGCTGACGAAATGTTAAGCCGTGGATTCAAGGACCA GATCTATGACATATTCCAAAAGCTCAACAGCAACACCCAGGTAGTTTTGCTGTCAGCCACAATGCCTTCTGATGT TATCCGCCAGTTCTACATCAACGTGGAACGAGAGGAGTGGAAGCTGGACACACTATGTGACTTGTATGAAACCCT AGATTTCACTGTATCCGCCATGCATGGAGATATGGACCAAAAGGAACGAGACGTGATTATGAGGGAGTTTCGTTC TGGCTCTAGCAGAGTTTTGATTACCACTGACCTGCTGGCCAGAGGCATTGATGTGCAGCAGGTTTCTTTAGTCAT CAACTATGACCTTCCCACCACAGGGAAAACTATATCCACAGAATCGGTCGAGGTGGACGGTTTGGCCGTAAAGG TGTGGCTATTAACATGGTGACAGAAGAGACAAGAGGACTCTTCGAGACATTGAGACCTTCTACAACACCTCCAT ${\tt TGAGGAAATGCCCCTCAATGTTGCTGACCTCATC} \underline{{\tt TGA}}{\tt GGGGCTGTCCTGCCACCCAGCCCAGCCAGGGCTCAAT}$ TGAATAAATGTCACTTTTTGAGGCAAAAGAAGG

MSASQDSRSRDNGPDGMEPEGVIESNWNEIVDSFDDMNLSESLLRGIYAYGFEKPSAIQQRAILPCIKGYDVIAQ AQSGTGKTATFAISILQQIELDLKATQALVLAPTRELAQQIQKVVMALGDYMGASCHACIGGTNVRAEVQKLQME APHIIVGTPGRVFDMLNRRYLSPKYIKMFVLDEADEMLSRGFKDQIYDIFQKLNSNTQVVLLSATMPSDVLEVTK KFMRDPIRILVKKEELTLEGIRQFYINVEREEWKLDTLCDLYETLTITQAVIFINTRRKVDWLTEKMHARDFTVS AMHGDMDQKERDVIMREFRSGSSRVLITTDLLARGIDVQQVSLVINYDLPTNRENYIHRIGRGGRFGRKGVAINM VTEEDKRTLRDIETFYNTSIEEMPLNVADLI

GAGCTAGCTTTGCAATATGGCGGCCGAGGCGGACGGACCGCTTAAACGGCTGCTCGTGCCGATTCTTTTACCTGA GAAATGCTACGACCAACTTTTCGTTCAGTGGGACTTGCTTCACGTCCCTGCCTCAAGATTCTCCTCAGCAAAAGG CCTGGGGCTGGCCATTGTGGCTGGCTCACTTCTAGTAAAGCTGCCCCAGGTGTTTAAAATCCGGGGAGCCAAGAG TGCTGAAGGGTTGAGTCTCCAGTCTGTAATGCTGGAGCTAGTGGCATTGACTGGGACCATGGTCTACAGCATCAC TAACAACTTCCCATTCAGCTCTTGGGGTGAAGCCTTATTCCTGATGCTCCAGACGATCACCATCTGCTTCCTGGT CTCACCTCTGACGCCCTTGACTGTAGTCACCCTGCTCCAGGCCTCCAATGTGCCTGCTGTGGTGGTGGGGAGGCT TCTCCAGGCAGCCACCAACTACCACAACGGGTACACAGGCCAGCTCTCAGCCATCACAGTCTTCCTGCTGTTTTGG GGGCTCCCTGGCCCGAATCTTCACTTCCATTCAGGAAACCGGAGATCCCCTGATGGCTGGGACCTTTGTGGTCTC CTCTCTCTGCAACGGCCTCATCGCCCCCAGCTGCTCTTCTACTGGAATGCAAAGCCTCCCCACAAGCAGAAAAA GGCGCAG<u>TAG</u>AGCCAGCTACTGGAGTCATTCCGTTTCCACTCATTCACCCAACCTCAGGGTTCTCCCCATCTGAG ${\tt CCAGCCTGCTGGTGTGACTTACTCATCCTCCATTCCTCTGCACTTGCAGACTTTCTGAGCCAGGGTTTTCTTTTA}$ GTGGAAACAAATGGTTGATGGATCCAGATCCTTAGAAAAGGAGGATGGGGGTAGAGTCTCCCAAGCCAAAATT TTGACATTTGAGTGCTTTCGTAAGCCCTGTACATGTACTATTAATTCAGTCATTCAGCCAAGCCTCCTCCTAG CAGCAATTTCCAGCTGTTTAACACTATCCTGGGCAAATGTTTTACCCTGTCCTCCAGCCTCCCTGCTTCCCTTCT TGGGGTGAGGAGGTTCCTGCTCTGGCAGGTCTAGGCGGAAGGGAGTGGAGATGGGGCTGGTTGCTGCAGTGA

MAAEADGPLKRLLVPILLPEKCYDQLFVQWDLLHVPCLKILLSKGLGLGIVAGSLLVKLPQVFKIRGAKSAEGLS LQSVMLELVALTGTMVYSITNNFPFSSWGEALFLMLQTITICFLVMHYRGQTVKGVAFLACYGLVLLVLLSPLTP LTVVTLLQASNVPAVVVGRLLQAATNYHNGYTGQLSAITVFLLFGGSLARIFTSIQETGDPLMAGTFVVSSLCNG LIAAQLLFYWNAKPPHKQKKAQ

TGCCACAAACGCTGAGCCCAGGTGGGAGAGGTCTGGCCTATCCGCGCCTGGCAGCTGTCGGAACTCCGGAGACCA GGTCCCCCAGTCAGTAGGCCTCAGAACACCTCTTCAGTGCCGGGGCACCAGACAGCGGATTTTGCATTCGACTCT CCCCAAAGTGTGCCGAACAGGTTGGAAGCAAAGGCTCCGGTTTAAGCTCTGGGCTTGGGGATAAAATACACTTTT TAAGGACCCAAGTTCCTCGGCAACGACTCCAGACTGGGAAGACCTTTCCATTTTCAGGATCGACGCTTCACGTTG AGGGGAGGCATTCAGGACCCCTCTTAAGGCTTCTCCCAACCCATCGCCTACCAGGCTCCTCACAGGACCAGG CCTGGAGCCTGGAGCCTCCGGCTGCCACGGCTGCTCCTCATCTTCGGGACCCCAGGAGCGGGAGGGCGCTG GGAGCCCCGCGCCCCCGGGACGCTGCCCCTGGAGAAGGTGAAGCGGCCGATGAACGCGTTCATGGTGTGGAGCT AGTGGAAGCTGCTGGACGACGACAAGCCGCCCTTCGTGGAGGAGGCCAAGCCGCTCCGCCCCGACACCTGC GCGACTACCCCGACTACAAGTACCGGCCTCGGCGCAAGGCCCAAGAGCTCGGGCGCCGGACCTTCCCGCTGCGGAC AGGGAAGAGGCAACCTGGCCAGCGGCGGCCCGCTCTGGGGGCCCGGGTACGCGACCACCCAACCGAGCAGAGGCT TTGGGTACAGACCCCCAGCTACTCGACAGCCTACCTGCCAGCTATGGCTCTTCCCACTGCAAACTGGAAG CCCCCTCACCGTGCTCCCTCAGAGTGACCCTAGGCTCCAGGGGGAACTGCTGCCCACCTATACCCACTACC TGCCCCTGGCTCTCCCACTCCATACAACCCTCCCCTTGCTGGTGCCCCCATGCCCCTAACCCACCTC<u>TAA</u>CCCT CATGGACGCAGACCTCACGGGACGGCCTCATCCTCTTTTTTAATCCAGCAGCATCCCCTACCCCAGGCTGTCA ${\tt ACCCTTTCTCCTGTTGGACTACAGTTCAGAGGCAGCCTGCAGTCCTCCCATGATAGCCAGGGAGAGCCGCACAAC}$ ATACAATTATATTTTTGGTAGTATTAAACAGTTTTGTATTATTC

MALPGSSQDQAWSLEPPAATAAASSSSGPQEREGAGSPAAPGTLPLEKVKRPMNAFMVWSSAQRRQMAQQNPKMH NSEISKRLGAQWKLLDEDEKRPFVEEAKRLRARHLRDYPDYKYRPRRKAKSSGAGPSRCGQGRGNLASGGPLWGP GYATTQPSRGFGYRPPSYSTAYLPGSYGSSHCKLEAPSPCSLPQSDPRLQGELLPTYTHYLPPGSPTPYNPPLAG APMPLTHL

ACTTGTCATGGCGACTGTCCAGCTTTGTGCCAGGAGCCTCGCAGGGGTTGATGGGATTGGGGTTTTCCCCTCCCA TGTGCTCAAGACTGGCGCTAAAAGTTTTGAGCTTCTCAAAAGTCTAGAGCCACCGTCCAGGGAGCAGGTAGCTGC TGGGCTCCGGGGACACTTTGCGTTCGGGCTGGGAGCGTGCTTTCCACGACGGTGACACGCTTCCCTGGATTGGCA GCCAGACTGCCTTCCGGGTCACTGCCATGGAGGAGCCGCAGTCAGATCCTAGCGTCGAGCCCCCTCTGAGTCAGG **AAACATTTTCAGACCTATGGAAACTACTTCCTGAAAACAACGTTCTGTCCCCTTGCCGTCCCAAGCAATGGATG** ATTTGATGCTGTCCCCGGACGATATTGAACAATGGTTCACTGAAGACCCAGGTCCAGATGAAGCTCCCAGAATGC CAGAGGCTGCTCCCGCGTGGCCCCTGCACCAGCAGCTCCTACACCGGCGCCCCTGCACCAGCCCCTCCTGGC CCCTGTCATCTTCTGTCCCTTCCCAGAAAACCTACCAGGGCAGCTACGGTTTCCGTCTGGGCTTCTTGCATTCTG GGACAGCCAAGTCTGTGACTTGCACGTACTCCCCTGCCCTCAACAGATGTTTTGCCAACTGGCCAAGACCTGCC CTGTGCAGCTGTGGGTTGATTCCACACCCCCGCCCGGCACCCGCGTCCGCGCCATGGCCATCTACAAGCAGTCAC AGCACATGACGGAGGTTGTGAGGCGCTGCCCCCACCATGAGCGCTGCTCAGATAGCGATGGTCTGGCCCCTCCTC AGCATCTTATCCGAGTGGAAGGAAATTTGCGTGTGGAGTATTTGGATGACAGAAACACTTTTCGACATAGTGTGG TGGTGCCCTATGAGCCGCCTGAGGTTGGCTCTGACTGTACCACCATCCACTACAACTACATGTGTAACAGTTCCT GCATGGGCGCATGAACCGGAGGCCCATCCTCACCATCATCACACTGGAAGACTCCAGTGGTAATCTACTGGGAC GGAACAGCTTTGAGGTGCGTGTTTGTGCCTGTCCTGGGAGAGACCCGCCGCACAGAGGAAGAGAATCTCCGCAAGA AAGGGGAGCCTCACCACGAGCTGCCCCCAGGGAGCACTAAGCGAGCACTGCCCAACAACACCAGCTCCTCTCCCC AGCCAAAGAAGAACCACTGGATGGAGAATATTTCACCCTTCAGATCCGTGGGCGTGAGCGCTTCGAGATGTTCC GAGAGCTGAATGAGGCCTTGGAACTCAAGGATGCCCAGGCTGGGAAGGAGCCAGGGGGGAGCAGGGCTCACTCCA GCCACCTGAAGTCCAAAAAGGGTCAGTCTACCTCCCGCCATAAAAAACTCATGTTCAAGACAGAAGGGCCTGACT GTTTTGGGTCTTTGAACCCTTGCTTGCAATAGGTGTGCGTCAGAAGCACCCAGGACTTCCATTTGCTTTGTCCCG GGGCTCCACTGAACAAGTTGGCCTGCACTGGTGTTTTGTTGTGGGGAGGAGGATGGGGAGTAGGACATACCAGCT TAGATTTTAAGGTTTTTACTGTGAGGGATGTTTGGGAGATGTTAAGAAATGTTCTTGCAGTTAAGGGTTAGTTTAC ${\tt AATCAGCCACATTCTAGGTAGGGGCCCACTTCACCGTACTAACCAGGGAAGCTGTCCCTCACTGTTGAATTTTCT}$ AATAATGTACATCTGGCCTTGAAACCACCTTTTATTACATGGGGTCTAGAACTTGACCCCCTTGAGGGTGCTTGT TCCCTCTCCCTGTTGGTCGGTGGTTGGTAGTTTCTACAGTTGGGCAGCTGGTTAGGTAGAGGGAGTTGTCAAGT CTCTGCTGGCCCAGCCAAACCCTGTCTGACAACCTCTTGGTGAACCTTAGTACCTAAAAGGAAATCTCACCCCAT CCCACACCCTGGAGGATTTCATCTCTTGTATATGATGATCTGGATCCACCAAGACTTGTTTTATGCTCAGGGTCA GGAGTGGCGTGATCTTGGCTTACTGCAGCCTTTGCCTCCCGGCTCGAGCAGTCCTGCCTCAGCCTCCGGAGTAG CCCAGGCTGGTCTCAAACTCCTGGGCTCAGGCGATCCACCTGTCTCAGCCTCCCAGAGTGCTGGGATTACAATTG TGAGCCACCACGTCCAGCTGGAAGGGTCAACATCTTTTACATTCTGCAAGCACATCTGCATTTTCACCCCACCCT TCCCCTCCTTCTCCCTTTTTATATCCCATTTTTATATCGATCTCTTATTTTACAATAAAACTTTGCTGCCA

AGTGCTTTCAAAAGAATTGGCGTCCGCTGTTCGCCTCTCCCCGGGAGTCTTCTGCCTACTCCCAGAAGAGAG GGAAGCACAXGGXTXGGGTTTCTTTAGCTCTGCGTCGGATCCCTGAGAACTTCGXAXAGXCCATCCTGGCTGAGG CTAATCTCCGCTGTGCTTCCTCTGCAGTATGAAGACTTTGGAGACTCAACCGTTAGCTCCGGACTGCTGTCCTTC AGACCAGGACCCAGCTCCAGCCCATCCTTCTCCCCACGCTTCCCCGATGAATAAAAATGCGGACTCTGAACTGAT GCTACGGGAGGGGGACCCAGTTTCTCTCTCCACTCCCCTGGAAACAGAGTTTGGTTCCCCTAGTGAGTTGAGTCC TCGAATCGAGGAGCAAGAACTTTCTGAAAATACAAGCCTTCCTGCAGAAGAAGCAAACGGGAGCCTTTCTGAAGA AGAAGCGAACGGGCCAGAGTTGGGGTCTGGAAAAGCCATGGAAGATACCTCTGGGGAACCCGCTGCAGAGGACGA GGGAGACACCGCTTGGAACTACAGCTTCTCCCAGCTGCCTCGATTTCTCAGTGGTTCCTGGTCAGAGTTCAGCAC CCAACCTGAGAACTTCTTGAAAGGCTGTAAGTGGGCTCCTGACGGTTCCTGCATCTTGACCAATAGTGCTGATAA CATCTTGCGAATTTATAACCTGCCCCCAGAGCTGTACCATGAGGGGGGAGCAGGTGGAATATGCAGAAATGGTCCC CACCTCCTACGTGGCCAGCAGCAGCCGGGAGAACCCGATTCATATCTGGGACGCATTCACTGGAGAGCTCCGGGC TTCCTTTCGCGCCTACAACCACCTGGATGAGCTGACGGCAGCCCATTCGCTCTGCTTCTCCCCGGATGGCTCCCA GCTCTTCTGTGGCTTCAACCGGACTGTGCGTGTTTTTTCCACGGCCCGGCCTGGCCGAGACTGCGAGGTCCGAGC CACATTTGCAAAAAAGCAGGGCCAGAGCGGCATCATCTCCTGCATAGCCTTCAGCCCAGCCCAGCCCCTCTATGC CTGTGGCTCCTACGGCCGCTCCTGGGTCTGTATGCCTGGGATGATGGCTCCCCTCTCGCCTTGCTGGGAGGGCA CCAAGGGGGCATCACCCACCTCTGCTTTCATCCCGATGGCAACCGCTTCTTCTCAGGAGCCCGCAAGGATGCTGA GCTCCTGTGCTGGGATCTCCGGCAGTCTGGTTACCCACTGTGGTCCCTGGGTCGAGAGGTGACCACCAATCAGCG CACGGACGGCCTGGCAATGATGGGAAGCCGGAGCCCGTGTTGAGTTTTCTGCCCCAGAAGGACTGCACCAATGG CGTGAGCCTGCACCCTAGCCTGCCTCCTGGCCACTGCCTCCGGTCAGCGTGTGTTTCCTGAGCCCACAGAGAG TGGGGACGAAGGAGAGGAGCTGGGCCTTCCCTTGCTCTCCACGCGCCACGTCCACCTTGAATGTCGGCTTCAGCT CTGGTGGTGTGGGGGGGCGCCAGACTCCAGCATCCCTGATGATCACCAGGGCGAGAAAGGGCAGGAGGAACGGA GGGAGGTGTGGGTGAGCTGATATAAAAAGGTTTTTATGAT

ACTTGTCATGGCGACTGTCCAGCTTTGTGCCAGGAGCCTCGCAGGGGTTGATGGGGATTGGGGTTTTCCCCTCCCA TGTGCTCAAGACTGGCGCTAAAAGTTTTGAGCTTCTCAAAAGTCTAGAGCCACCGTCCAGGGAGCAGGTAGCTGC TGGGCTCCGGGGACACTTTGCGTTCGGGCTGGGAGCGTGCTTTCCACGACGGTGACACGCTTCCCTGGATTGGCA GCCAGACTGCCTTCCGGGTCACTGCCATGGAGGAGCCGCAGTCAGATCCTAGCGTCGAGCCCCCTCTGAGTCAGG AAACATTTTCAGACCTATGGAAACTACTTCCTGAAAACAACGTTCTGTCCCCCTTGCCGTCCCAAGCAATGGATG ATTTGATGCTGTCCCCGGACGATATTGAACAATGGTTCACTGAAGACCCAGGTCCAGATGAAGCTCCCAGAATGC CAGAGGCTGCTCCCCCGTGGCCCCTGCACCAGCAGCTCCTACACCGGCGGCCCCTGCACCAGCCCCCTCCTGGC CCCTGTCATCTTCTGTCCCTTCCCAGAAAACCTACCAGGGCAGCTACGGTTTCCGTCTGGGCTTCTTGCATTCTG GGACAGCCAAGTCTGTGACTTGCACGTACTCCCCTGCCCTCAACAAGATGTTTTTGCCAACTGGCCAAGACCTGCC CTGTGCAGCTGTGGGTTGATTCCACACCCCGCCCGGCACCCGCGTCCGCGCCATGGCCATCTACAAGCAGTCAC AGCACATGACGGAGGTTGTGAGGCGCTGCCCCCACCATGAGCGCTGCTCAGATAGCGATGGTCTGGCCCCTCCTC AGCATCTTATCCGAGTGGAAGGAAATTTGCGTGTGGAGTATTTGGATGACAGAAACACTTTTCGACATAGTGTGG TGGTGCCCTATGAGCCGCCTGAGGTTGGCTCTGACTGTACCACCATCCACTACAACTACATGTGTAACAGTTCCT GCATGGGCGCATGAACCGGAGGCCCATCCTCACCATCATCACACTGGAAGACTCCAGTGGTAATCTACTGGGAC GGAACAGCTTTGAGGTGCGTGTTTTGTGCCTGTCCTGGGAGAGACCGGCGCACAGAGGAAGAATCTCCGCAAGA AAGGGGAGCCTCACCACGAGCTGCCCCCAGGGAGCACTAAGCGAGCACTGCCCAACAACACCAGCTCCTCCCC AGCCAAAGAAGAACCACTGGATGGAGAATATTTCACCCTTCAGATCCGTGGGCGTGAGCGCTTCGAGATGTTCC GAGAGCTGAATGAGGCCTTGGAACTCAAGGATGCCCAGGCTGGGAAGGAGCCAGGGGGGAGCAGGGCTCACTCCA GCCACCTGAAGTCCAAAAAGGGTCAGTCTACCTCCCGCCATAAAAAACTCATGTTCAAGACAGAAGGGCCTGACT CAGACTGACATTCTCCACTTCTTGTTCCCCACTGACAGCCTCCCACCCCATCTCTCCCCTCCCCTGCCATTTTGG GTTTTGGGTCTTTGAACCCTTGCTTGCAATAGGTGTGCGTCAGAAGCACCCAGGACTTCCATTTGCTTTGTCCCG GGGCTCCACTGAACAAGTTGGCCTGCACTGGTGTTTTGTTGTGGGGAGGAGGATGGGGAGTAGGACATACCAGCT TAGATTTTAAGGTTTTTACTGTGAGGGATGTTTGGGAGATGTAAGAAATGTTCTTGCAGTTAAGGGTTAGTTTAC AATCAGCCACATTCTAGGTAGGGGCCCACTTCACCGTACTAACCAGGGAAGCTGTCCCTCACTGTTGAATTTTCT AATAATGTACATCTGGCCTTGAAACCACCTTTTATTACATGGGGTCTAGAACTTGACCCCCTTGAGGGTGCTTGT TCCCTCTCCCTGTTGGTCGGTGGTTGGTAGTTTCTACAGTTGGGCAGCTGGTTAGGTAGAGGGAGTTGTCAAGT CTCTGCTGGCCCAGCCAAACCCTGTCTGACAACCTCTTGGTGAACCTTAGTACCTAAAAGGAAATCTCACCCCAT CCCACACCCTGGAGGATTTCATCTCTTGTATATGATGATCTGGATCCACCAAGACTTGTTTTATGCTCAGGGTCA ATTTCTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTGAGACTGGGTCTCGCTTTGTTGCCCAGGCTGGAGT GGAGTGGCGTGATCTTGGCTTACTGCAGCCTTTGCCTCCCGGCTCGAGCAGTCCTGCCTCAGCCTCCGGAGTAG CTGGGACCACAGGTTCATGCCACCATGGCCAGCCAACTTTTGCATGTTTTGTAGAGATGGGGTCTCACAGTGTTG CCCAGGCTGGTCTCAAACTCCTGGGCTCAGGCGATCCACCTGTCTCAGCCTCCCAGAGTGCTGGGATTACAATTG TGAGCCACCACGTCCAGCTGGAAGGGTCAACATCTTTTACATTCTGCAAGCACATCTGCATTTTCACCCCACCCT TCCCCTCCTTCTCCCTTTTTATATCCCATTTTTATATCGATCTCTTATTTTACAATAAAACTTTGCTGCCA

GCCGCTGAGAAAGCGCAGAGAAGGCGGGCCCCGTCTGAGGTCTGGCAGTCAGAGACAGCCGGGCGCCCACGGCCC GAGCGCCCACGCACCACCCCCGCACTCCTGGAGCGCCCCAAGCTTTCCAACGCCATGGCCAGGCGCTGCA CCGGCACATTATGATGGAGCGGGAGCGCAAGCGGCAGGAGAAGAAGAGGTGGATAAGATGATGGAACAGAAGAT GAAGGAAGAACAGGAGAAGAAAAAAGGAGATGGAAGAGAATGTCATTAGAGGAGACCAAGGAACAAAT TCTGAAGTTGGAGGAGAAGCTTTTGGCTCTACAGGAAGAGAAGCACCAGCTTTTCCTGCAGCTCAAGAAAGTTTT ACATGAGGAAGAAAAACGGAGGCGAAAGGAACAGAGTGACCTGACCACCCTAACATCAGCTGCATACCAGCAGAG CCTGACTGTTCACACAGGAACTCATCTCCTCAGCATGCAGGGGAGCCCTGGAGGACACAATCGCCCAGGCACCCT CATGGCAGCTGACAGAGCCAAACAATGTTTGGACCCCAAGTGCTTACGACCCGGCACTACGTGGGCTCAGCAGC TGCTTTTGCAGGGACACCAGAGCATGGACAATTCCAAGGCAGTCCTGGTGGTGCCTATGGGACTGCTCAGCCCCC ACCTCACTATGGGCCCACACAGCCAGCTTATAGTCCTAGTCAGCAGCTCAGAGCTCCTTCGGCATTCCCTGCAGT GCAGTACCTATCTCAGCCACAGCCACAGCCCTATGCTGTGCATGGCCACTTTCAGCCCACTCAGACAGGTTTCCT CCAGCCTGGTGGTGCCCTGTCCTTGCAAAAGCAGATGGAACATGCTAACCAGCAGACTGGCTTCTCCGACTCATC CTCTCTGCGCCCCATGCACCCCCAGGCTCTGCATCCAGCCCCTGGACTCCTTGCTTCCCCCCAGCTCCCTGTGCA GATGCAGCCAGCAGGAAAGTCGGGCTTTGCAGCTACCAGCCAACCTGGCCCTCGGCTCCCCTTCATCCAACACAG CCAGAACCCGCGATTCTACCACAAGTGACCATCAGATTATATCTTCAACACCACACCCCCCACCCCATCGTGGGT GAGGGTATCCCCTGTGTGTCCCAGGCCAATAAAATCTACCTGCCA

GGCACGAGGGCGGCGGCGGTAGAGGCGGCGGCGGCGGCGGCAGCGGCTCGGAGGCAGCGGTTGGGCTCGCG GCGAGCGGACGGGTCGAGTCAGTGCGTTCGCGCGAGTTGGAATCGAAGCCTCTTAAA<u>ATC</u>GCAGATGACTTGGA CTTCGAGACAGGAGATGCAGGGGCCTCAGCCACCTTCCCAATGCAGTGCTCAGCATTACGTAAGAATGGCTTTGT GGTGCTCAAAGGCCGGCCATGTAAGATCGTCGAGATGTCTACTTCGAAGACTGGCAAGCACGGCCACGCCAAGGT CCATCTGGTTGGTATTGACATCTTTACTGGGAAGAAATATGAAGATATCTGCCCGTCAACTCATAATATGGATGT CCCCAACATCAAAAGGAATGACTTCCAGCTGATTGGCATCCAGGATGGGTACCTATCACTGCTCCAGGACAGCGG GGAGGTACGAGGAGCCTTCGTCTCCCTGAGGGAGACCTTGGCAAGGAGATTGAGCAGAAGTACGACTGTGGAGA AGAGATCCTGATCACGGTGCTGTCTGCCATGACAGAGGAGGCAGCTGTTGCAATCAAGGCCATGGCAAAA<u>TAA</u>CT GGCTCCCAGGATGGCGGTGGTGGCAGCAGTGATCCTCTGAACCTGCAGAGGCCCCCTCCCCGAGCCTGGCCTGGC ATCTGTCGGGGAGCCCCTGCCCTTCACCTAGCTCCCTTGGCCAGGAGCGAAGCTGTGGCCTTGGTGAAGCT $\verb|TTTTTTTTTTTTTTTTTTTAAATTCAATCTGGAATCAGAAAGCGGTGGATTCTGGCAAATGGTCCTTGTGC|$ CCTCCCCACTCATCCCTGGTCTGGTCCCCTGTTGCCCATAGCCCTTTACCCTGAGCACCACCCCAACAGACTGGG GACCTGCCCCTCCTCAGGCATCTGGGAGGGCCCTGCCCCCATGGGCTTTACCCTTCCCTGCGGGCTCTCTCCCC ΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑΑ

 ${\tt MADDLDFETGDAGASATFPMQCSALRKNGFVVLKGRPCKIVEMSTSKTGKHGHAKVHLVGIDIFTGKKYEDICPS} \\ {\tt THNMDVPNIKRNDFQLIGIQDGYLSLLQDSGEVREDLRLPEGDLGKEIEQKYDCGEEILITVLSAMTEEAAVAIK} \\ {\tt AMAK} \\$

GGCCGGGAGAGTAGCAGTGCCTTGGACCCCAGCTCTCCTCCCCCTTTCTCTCTAAGG<u>ATG</u>GCCCAGAAGGAGAAC TCCTACCCTGGCCCTACGGCCGACAGACGGCTCCATCTGGCCTGAGCACCCTGCCCCAGCGAGTCCTCCGGAAA GAGCCTGTCACCCCATCTGCACTTGTCCTCATGAGCCGCTCCAATGTCCAGCCCACAGCTGCCCTGGCCAGAAG GTGATGGAGAATAGCAGTGGGACACCCGACATCTTAACGCGGCACTTCACAATTGATGACTTTGAGATTGGGCGT CCTCTGGGCAAAGGCAAGTTTGGAAACGTGTACTTGGCTCGGGAGAAAAAGCCATTTCATCGTGGCGCTCAAG GTCCTCTTCAAGTCCCAGATAGAGAAGGAGGCGTGGAGCATCAGCTGCGCAGAGAGATCGAAATCCAGGCCCAC CTGCACCATCCCAACATCCTGCGTCTCTACAACTATTTTTATGACCGGAGGAGGATCTACTTGATTCTAGAGTAT GCCCCCGCGGGGAGCTCTACAAGGAGCTGCAGAAGAGCTGCACATTTGACGAGCAGCGAACAGCCACGATCATG GAGGAGTTGGCAGATGCTCTAATGTACTGCCATGGGAAGAAGGTGATTCACAGAGACATAAAGCCAGAAAATCTG ACAATGTGTGGCACCCTGGACTACCTGCCCCCAGAGATGATTGAGGGGCGCATGCACAATGAGAAGGTGGATCTG TATCGCCGCATCGTCAAGGTGGACCTAAAGTTCCCCGCTTCTGTGCCCACGGGAGCCCAGGACCTCATCTCCAAA CTGCTCAGGCATAACCCCTCGGAACGGCTGCCCCTGGCCCAGGTCTCAGCCCACCCTTGGGTCCGGGCCAACTCT CGGAGGGTGCTCCCTCTGCCCTTCAATCTGTCGCCTGATGGTCCCTGTCATTCACTCGGGTGCGTGTGTTT GTATGTCTGTGTATGTATAGGGGAAAGAAGGGGATCCCTAACTGTTCCCTTATCTGTTTTCTACCTCCTCTTTGT TTAATAAAGGCTGAAGCTTTTTGT ·

MAQKENSYPWPYGRQTAPSGLSTLPQRVLRKEPVTPSALVLMSRSNVQPTAAPGQKVMENSSGTPDILTRHFTID DFEIGRPLGKGKFGNVYLAREKKSHFIVALKVLFKSQIEKEGVEHQLRREIEIQAHLHHPNILRLYNYFYDRRRI YLILEYAPRGELYKELQKSCTFDEQRTATIMEELADALMYCHGKKVIHRDIKPENLLLGLKGELKIADFGWSVHA PSLRRKTMCGTLDYLPPEMIEGRMHNEKVDLWCIGVLCYELLVGNPPFESASHNETYRRIVKVDLKFPASVPTGA QDLISKLLRHNPSERLPLAQVSAHPWVRANSRRVLPPSALQSVA

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5093/6881 FIGURE 4702

 ${\tt MEVQAPPGTTIGHVLQTWHPFLPKFSIQDADRQTVLRVVGPCWTCGCGTDTNFEVKTRDESRSVGRISKQWGGLVREALTDADDFGLQFPLDLDVRVKAVLLGATFLIDYMFFEKRGGAGPSAVTS}$

GAGACCATGGCGGGTAGCACCTGGGGGCGGTGGGGTTGGGGAGACGAAGGTGATTTACCACCTGGATGAGGAA GAGACTCCCTACCTGGTGAAGATCCCTGTCCCCGCCGAGCGCATCACCCTCGGCGATTTCAAGAGCGTCCTGCAG ATGGCCCCTCCAGTCCATGAGCCTCGGGCAGAACTGGCGCCTCCAGCCCACCTTTACCTCCTTTGCCACCCGAG CCTGAGACAGAAACCGAGTCAGTAGTGTCACTGAGGCGGGAGCGCCTCGCAGGAGAGACAGCAGTGAGCATGGC GCTGGGGGCCACAGGACTGGTGGCCCCTCAAGGCTGGAGCCCCCCTGGCCGGATACGAGAGCTCCTCTACCCTC ATGACCAGCGAGCTGGAGAGTACCAGCCTGGGGGACTCGGACGAGGACACCATGAGCAGGTTCAGCAGCTCC AGGACGTCATCCTTCAGCAGCGTCACAGATTCCACAATGTCTCTCAATATCATCACAGTCACGCTAAACATGGAG AAGTACAACTTCCTGGGTATCTCCATTGTTGGCCAGAGCAATGAGCGGGGAGACGGAGGCATCTACATTGGCTCC ATCATGAAGGGTGGGGCTGTGGCGGCCGACGGGCGCATTGAGCCAGGGGACATGCTTTTGCAGGTGAATGACATG AACTTTGAGAACATGAGCAACGATGACGCTGTGCGGGTGCTGAGGGACATTGTGCACAAGCCTGGCCCCATTGTG CTGACTGTGGCCAAGTGCTGGGATCCCTCTCCTCAGGCCTATTTCACTCTCCCCCGAAATGAGCCCATCCAGCCA ATTGACCTGCTGCCTGGGTGTCCCATTCCGCGGCTCTGACTGGCACCTTCCCAGCCTATCCAGGTTCCTCCC ATGAGCACCATTACATCTGGATCGTCTTTGCCTGATGGCTGTGAAGGCCGGGGTCTCTCCGTCCATACGGACATG GCATCGGTGACCAAGGCCATGGCAGCTCCAGAGTCTGGACTGGAAGTCCGGGACCGCATGTGGCTCAAGATCACC ATCCCTAATGCCTTTCTGGGCTCGGATGTGGTTGACTGGCTCTACCATCACGTGGAGGGCTTTCCTGAGCGGCGG GAGGCCCGCAAGTATGCCAGCGGGCTGCTCAAAGCAGGCCTGATCCGACACACCGTCAACAAGATCACCTTCTCT GAGCAGTGCTATTACGTCTTCGGAGACCTCAGTGGTGGCTGTGAGAGCTACCTAGTCAACCTGTCTCAATGAC AACGATGGCTCCAGTGGGGCTTCAGACCAGGATACCCTGGCTCCTCTGCCTGGGGCCACCCCCTGGCCCCTGCTG $\tt CCCACTTTCTCCTACCAATACCCTGCCCCACACCCCTACAGCCCGCAGCCTCCACCCTACCATGAGCTTTCATCT$ TACACCTATGGTGGGGCAGTGCCAGCAGCATAGTGAGGGCAGCCGGAGCAGTGGGTCGACACGGAGTGAT GGGGGGCAGGGCGCACGGGAGGCCCGAGGAGCGGCCCCCGAGTCCAAGTCCGGCAGTGGCAGTGAGTCTGAG CCCTCCAGCCGAGGGGGCAGCCTTCGGCGGGGTGGGGAAGCAAGTGGGACTAGCGATGGGGGCCCTCCTCCATCC GCCCTCCCCTACAACCCCATGATGGTGGTCATGATGCCCCCACCTCCACCTCCAGTCCCTCCAGCAGTGCAGCCT GCCATGGGCAATCCCAGCGAGTTCTTTGTGGATGTTATGTAGCCCACTGTGGGGCCAGGCTGGGCCGGGCGCTCC TGGTGTGTGACTGGGTGTCCTGGCCGTCATGTGCTTGCTCTTACAGTGCCTGGGCTCAGCCTACCAGCTGCTGCC ATACAGGAGATTGTGGCCACTGTGACTCTCACCAGCAGTGCCTGGTTCCTCCCCCTTCCCTCAGGGGTAGACAAG GGACCTTTGATTATTTTTAGCTTTGTTTTTTTATAAGCCTTTTTGGGGGGTTAAAATAGAGTTTCTTACATTTTTG GGACTTTTTTAATAGGCATTTCCTCTTTT

MAGSSTGGGGVGETKVIYHLDEEETPYLVKIPVPAERITLGDFKSVLQRPAGAKYFFKSMDQDFGVVKEEISDDN ARLPCFNGRVVSWLVSSDNPQPEMAPPVHEPRAELAPPAPPLPPLPPERTSGIGDSRPPSFHPNVSSSHENLEPE TETESVVSLRRERPRRDSSEHGAGGHRTGGPSRLERHLAGYESSSTLMTSELESTSLGDSDEEDTMSRFSSSTE QSSASRLLKRHRRRKQRPPRLERTSSFSSVTDSTMSLNIITVTLNMEKYNFLGISIVGQSNERGDGGIYIGSIM KGGAVAADGRIEPGDMLLQVNDMNFENMSNDDAVRVLRDIVHKPGPIVLTVAKCWDPSPQAYFTLPRNEPIQPID PAAWVSHSAALTGTFPAYPGSSSMSTITSGSSLPDGCEGRGLSVHTDMASVTKAMAAPESGLEVRDRMWLKITIP NAFLGSDVVDWLYHHVEGFPERREARKYASGLLKAGLIRHTVNKITFSEQCYYVFGDLSGGCESYLVNLSLNDND GSSGASDQDTLAPLPGATPWPLLPTFSYQYPAPHPYSPQPPPYHELSSYTYGGGSASSQHSEGSRSSGSTRSDGG AGRTGRPEERAPESKSGSGSESEPSSRGGSLRRGGEASGTSDGGPPPSRGSTGGAPNLRAHPGLHPYGPPPGMAL PYNPMMVVMMPPPPPPVPPAVQPPGAPPVRDLGSVPPELTASRQSFHMAMGNPSEFFVDVM

GGCCCCCCCCCTAGAAATGCTCGAACCAGGACGGCTCCTGGAGTCCTCGCGCCCTCGCAGAAGGACTACGG GCCCCGGCGACCCCGGGGGCGGGCTTCCGGCGCGCTGCCTTGTGGGCACGGTAGTTCCGCCGGGTCTGGCTTCC GCCTGCCGAGCGGCCCGGACCGCAGGCCGGACTACACTTCCCGTCGGCCCGCCTGCTCTCCCGATGCCGCCTTG GCGCGAGACGTTGGCAAGCAGAGTGTCTCCAAG<u>ATG</u>CCCGCTTGGGGAAGGAGGCGTCTTGGCCCGGGCAGCAGT GGCGGCAGCGCCCGAGAGAGGGTGAGCTTGTCGGCCACAGACTGCTACATTGTGCATGAGATCTACAATGGGGAG AATGCCCAAGACCAGTTTGAGTACGAGCTGGAGCAGGCCCTGGAAGCCCAGTACAAGTACATTGTGATTGAGCCC ${\tt ACCGCCTGCCTCTTCACCCCGTTGGCGCTGCCCTTAGATTATTCCCACTACATTTCCCTGCCCGCTGGTGTGCTG}$ AGCCTGCCTGCTGCACCCTCTATGGGATCTCCTGGCAGTTTGACCCTTGCTGCAAGTACCAAGTGGAGTACGAC GCCTATAAACTGTCGCGCCTGCCTCTGCACACACTCACCTCCACCCCGGTGGTGCTGGTCCGGAAGGACGAC CTGCACAGAAAGAGACTGCACAACACGATAGCACTGGCCGCCCTGGTGTACTGTTAAAGAAGATTTACGAACTC TCGCCACACTCTGTGAGGCAGCAGAGCCTGGGCAGGTGTTTGGCTTAGTATTTGTTATTTTTAAAAAATAACAGA TCACGGGTGTACCCAGGGTTTTTCAGCTCATTACACTAAGATGTGGATTTCCATAACCCAAGAGGGGGGTCTGAG GCTGTGGAAGTCCGACTGGCAGTGGAATGCTGATGGAGGCAGACGCTGCCGAGGGGGTGTGGACGTGCTTTGGG GGAGGTCTTTAAGTCTATTGTTTAACTGTACCATCCAGAGCCCACCAGAAGCTATTGATCATTAAAATTATGAGA ATTTCAACTCC

MAAWGRRRLGPGSSGGSARERVSLSATDCYIVHEIYNGENAQDQFEYELEQALEAQYKYIVIEPTRIGDETARWI TVGNCLHKTAVLAGTACLFTPLALPLDYSHYISLPAGVLSLACCTLYGISWQFDPCCKYQVEYDAYKLSRLPLHT LTSSTPVVLVRKDDLHRKRLHNTIALAALVYCVKKIYELYAV

5101/6881 FIGURE 4710A

AGGCCAAGTCCTGTATCTGCCATGTCTGTGGCGTCCACCTCAACAGGCTGCATTCCTGCCTCTACTGTGTCTTCT TCGGCTGTTTCACAAAGAAGCATATTCACGAGCATGCGAAGGCGAAGCGGCACAACCTGGCCATTGATCTGATGT ACGGAGGCATCTACTGTTTCTGTGCCAGGACTACATCTATGACAAAGACATGGAAATAATCGCCAAGGAGGAGC TGCTGAAGCACAACCCGAAAAGGAGAAAGATCACCTCGAACTGCACCATAGGTCTGCGTGGGCTGATCAACCTTG GGAACACATGCTTCATGAACTGCATCGTGCAGGCCCTGACCCACACGCCACTTCTGCGGGGACTTCTTCCTGTCTG ACAGGCACCGCTGTGAGATGCAGAGCCCCAGCTCCTGTCTGGTCTGTGAGATGTCCTCACTGTTTCAGGAGTTTT ACTCTGGACACCGGTCCCCTCACATCCCGTATAAGTTGCTGCACCTGGTGTGGACCCACGCGAGGCACCTAGCAG GCTACGAGCAGCAGGACGCCCACGAGTTCCTCATCGCGGCCCTGGACGTGCTCCACCGACACTGCAAAGGTGATG ACAATGGGAAGAAGGCCAACAACCCCAACCACTGCAACTGCATCATAGACCAGATCTTCACAGGCGGGTTGCAGT CAGACGTCACCTGCCAAGTCTGCCATGGAGTCTCCACCACCATCGACCCCTTCTGGGACATCAGCTTGGATCTCC CGGGAACCACCACGCTCACGGACTGCCTGCGACGATTCACCAGACCAGAGCACTTGGGCAGCAGCGCCCAAGATCA AGTGCAGCGGTTGCCATAGCTACCAGGAGTCCACAAAGCAGCTCACTATGAAGAAACTGCCCATCGTAGCCTGTT TTCATCTCAAACGATTTGAACACTCAGCCAAGCTGCGGCGGAAGATCACCACGTATGTGTCCTTCCCCCTGGAGC TGGACATGACCCCTTTCATGGCCTCCAGCAAAGAGAGCAGGATGAATGGACAGTACCAGCAGCCCACGGACAGTC TCAACAATGACAACAAGTATTCCCTGTTTGCTGTTGTTAACCATCAAGGGACCTTGGAGAGTGGCCACTACACCA GCTTTATCCGGCAGCACAAAGACCAGTGGTTCAAGTGTGACGATGCCATCATCACCAAGGCCAGCATCAAGGACG TCCTGGACAGCGAAGGGTACTTGCTGTTCTATCACAAACAGTTCCTGGAATACGAGTAGCCTTATCTGCAGCTGG CGCCGCCTCCCGGCCTGGTGACACCACCTCCCATGCAGATGTGGCCCCTCTGCACCTGGGACCCATCGGGTCGG AGGAGCAGCGTACACCGTCACCAGAACATCTCTTGTGTCATGACATGGGGGGTGCAACGGGGGCCTCACAGCACA GAGTGACCGCTGCCTGCCGTCCCCAGCACTCGGTGTGGAAAGGCCCCTACCTGCTGTAAGATTATGGGTCCATG AAAGCAGTAAGCTGGACACAGAGGTGTAGTGTGCGGGACAGAGGGCCTTGCAGATGCCTTTCTGTTGGTGTTTTA GTGTTAAAATACGGAGAGTATGGAACTCTTCACCTCCATTTTCTCAGCGGCTGTGAAGCAGCCTCCTAGCTTCGG AAGTACGGACACTACGTCGCGTTTTCAAGCGTGTCTGTTCTGCAGGTAACAGCATCAAGCTGCACGTGGAAGCAT CTCGCGGTTTTCTAGAAACAGGCATTTTCTTATCCCTCTCCCGCTCCTTTTTCCACAAAGGTGAATTTCATAAAT GTAATACTAGTAAAGTGAATGAATTACTGAGTTTATACAGAAATTTAGGTAACTTCTCCTTTAGTCTCAAGAGCG TGGAGTAAATGCAGTGTCTGCCGGTGTCTGATGGGTTCTGTCCCTCGTATTTTCTTTGCCTTCTATCCCATTGCC TGGCTACCGCTGCCTGGCAGCCAAGGGTGTTGGTCGCGAAGCTGGAGTGGCCTCTGGTGGAGCCTGCATCTTGTC TCGTCTGCCTCTGCTTTACATTTGGTGTACTTTCGGGCGTGGTGGCAGTAAAATGACACCGTGATTGAGCTTGTC AGCAGAGCTGAAAGAGAAAGTAGAAGGATGTGCATTGTTTCTTGTAAGATATCTTGCATGTATCTGTGTATTCAA ATTCAAACAGAGATGGTTTGTCCATTTGTCCACTGAGAAATTAGAAACTAGGGACAAGGGGGAGAAAAGTACTG AAATACAGTTTATGAAGCAAGTGTGTCTCGGGCTGTGCTTGTCCCAGGAGCCCCAGCAGCATCTGAACTGAGGCT TCTTCAGTCCTGCAGGAACAGGATCATCTGTCTCAGCGGTGGGCAGATGTTTTCATAGACAGCCAGGGAGTAAAC ACTGTTGGCTCTGTGGGCTGTATGGTCTCTGCCATAAATAGTACAGAGATGTGGCTGTGTCTAGTACAACTTTTA GGAGGGGGTAGTGACAGTGCCAGCTGCTCACTGCTCAGTGTGGAAAACACAGGACTTGGCAATCACAGCCCG CAGAACCATCATGTGTGGCAGAAGCCTGAGGGATGCGGTTTCTTGCCCACGTGCTCTGTTCATTTTCTGTTGTTT TTCTGCACTTAAAGAATTCACATGGAAGCATGTTTTATAAAATGAATTACCAGAGAAACAGAGATGGGCCGAGAT TTTCAGAAATGGTCCCATGTGACCAAGTTCTGCTGTTTTGGGTGACAGTGCTTTGAAGATCTCCTTTGAGGATGTG CAACCTCCACCTCCTGGGTTCAAGCAGTTCTCGTGCCGCAGCCTCCCAAGTAGCTGGGACTACAGGCATGCACCA ${\tt CCACGCCAGGCTAATTTTTGTATTTTAGTAGAGATGGGGTTTCACCATGTCTCAAACTCCTGACCTCAGGCGAT}$

5102/6881 FIGURE 4710B

 ${\tt CCACCCACCTCAGCGTCCCAAAGTGCTGGGATTATAGGCGTGAGCCACCGCACCTGGCCTATGAGTGGTCTTTTA}$ ATTAGGAACAATCTAATGGAAAGGAGAGTTGACTGAAGTTGGCCCACAGGATTGTGAGCTGGGCAGTGCCTTCA ·TGAAGGCTTGCCACCTTGGGACGCCCCAGTTTACTGGGGTGTCTTGCGGAGTGCAGAAGGCTTTCTGGCAGCTGC $\tt CTGGGTTTGGCCAGACCCTGCCTCCCGCCGGCCAACCCCTAGTCCCCTTCCTGTCTCCACTTGCATTCAG$ ${\tt TAAACTTTCGTATCCAAGTTAGTCCCCCTTATTCCACTGTGGCATTGCCGTTCTAAGCAGTTACCTGATGCCTGC}$ TGCTGAAGAGCTGCTCACAGGAGGCGGCGGCGCCCTGGCACTGCCCCTTGCATTAGGTCTTGTTTTGATGTGT ${\tt TCTTGTGAATTTACTTTGTCAGAACAAAATATTTACGCGTTGGGTTCAGGAATTTCTTTTAGCTCCCCATCTGGC}$ TGTGAAATTCAGGAAACCTCCCGTTGCCTAGTAATCACCCCATGTAGGTGTACATTGTGACAAAGTGCATCTGAC ${\tt CACTAAGGGGCCCCCTTGGTGACCCCAGCACATTCACAGCAGTGTTAAAATGGCCTGCATTTTGGAGATGCTGGC}$ TGGCCTTTCAGTGCCTCCCAGGAAGACACATGGCCTTTCCCTCTTCAGATGCCTGAAGGGAGTGCTTTGAGGCAG TGGGCTTCGTGGTGAGCACTGCAGCCTCCCTGGGCATTCCCTCCAGCGCCAGCACCACTGCAACATATAGACCTG AGTGCTATTGTATTTTGGCTTGGTGTATGCTCTTCATTGTGTAAAATTGCTGTTCTTTTGACAATTTAAGTGA TTGTTTTGTTTACTGTAAGTTTGAAAATAAAAATGAAGAAAAAAATTCCAATGACTGTGCTGTGGTTGGAGACTT TATTTACCAAGATGTTTACTCTTCCCTTTCCCTTTCGATTTTGAGGAGCTGTGTCACTCCTCCCCCCCAGTGC TTTGTAGTCTCTCTATGTCATAATAAAGCTACATTTTCTCTG

WO 2004/030615 PCT/US2003/028547

5103/6881 FIGURE 4711

MVSRPEPEGEAMDAELAVAPPGCSHLGSFKVDNWKQNLRAIYQCFVWSGTAEARKRKAKSCICHVCGVHLNRLHS CLYCVFFGCFTKKHIHEHAKAKRHNLAIDLMYGGIYCFLCQDYIYDKDMEIIAKEEQRKAWKMQGVGEKFSTWEP TKRELELLKHNPKRRKITSNCTIGLRGLINLGNTCFMNCIVQALTHTPLLRDFFLSDRHRCEMQSPSSCLVCEMS SLFQEFYSGHRSPHIPYKLLHLVWTHARHLAGYEQQDAHEFLIAALDVLHRHCKGDDNGKKANNPNHCNCIIDQI FTGGLQSDVTCQVCHGVSTTIDPFWDISLDLPGSSTPFWPLSPGSEGNVVNGESHVSGTTTLTDCLRRFTRPEHL GSSAKIKCSGCHSYQESTKQLTMKKLPIVACFHLKRFEHSAKLRRKITTYVSFPLELDMTPFMASSKESRMNGQY QQPTDSLNNDNKYSLFAVVNHQGTLESGHYTSFIRQHKDQWFKCDDAIITKASIKDVLDSEGYLLFYHKQFLEYE

5104/6881 FIGURE 4712A

GTGGTGTCGGTGTCGGCAGCATCCCCGGCGCCCTGCTGCGGCCGCGAGCCTCGGCCTCTGTCTCCCCCTT CCAGCCCTCACCTCCACGCGGGACCGCTCGCGCCAGTCAACTCCGCGCACGTTGCCCCTGCTTGGCAGCCAATAA AAGGGGGCTGAGGAAATACCGGACACGGTCACCCGTTGCCAGCTCTAGCCTTTAAATTCCCGGATCGGGCACCTC AATCGCAGTCCTCCGGCGAACCTCCGCCCCGGAGCCTCAGCCCCTGGAAAGTGATCCTGGCATCCGAGAG CCAAGATGCCGGCCCACTTGCTGCAGGACGATATCTCTAGCTCCTATACCACCACCACCACCACCACTTACAGCGC CTCCTTCCAGGGTCCCGCAGAATGGAGGAGATAAGTTGGAGACGACGCCCCTCTACTTGGAAGAAGACATTCGCC GGAGAAACATCATCCTTATGTCTCTGCTACACTTGGGCGCCCTGTATGGGATCACTTTGATTCCTACCTGCAACT TATACACCTGGCTTTGGGGGGTATTCTACTATTTTATCAGTGCCCTGGGCATAACAGCAGGAGCTCATCCTCTGT GGAGCCACTGATCTTACAAAGCTCGGCTGTCCCTGTGGCTCTTTCTGATCATTGCCAACACAATGGCATTCCAGA ATGATGTCTATGAATGGGCTCGCGACCACCGTGCCCACCACAGTTTTCAGAAACACATGCTGATCCTCATAATT CCTGACGTGGCTTTTTCTCTCTCACGTGGGTTGGCTGCTTGTGCGCAAACACCCAACTGTCAAAGAGAAGGGCA GTACGCTAGACTTGTCTGACCTAGAAGCCGAGAAACTGGTGATGTTCCAGAGGAGGTACTACAAACCCGGCTTGC TGTTGATGTGCTTCATCCTGCCCACGCTTGTGCCCTGGTGTTTCTGGGGTGAAACTTTTCAAAACAGCGTGTTCG TTGCCACTTTCTTGCGATATGCTGTGGTGCTTAATGCCACGTGGCTGAACAGTGCTGCCCACCTCTTCAGAT ATCGTCCTTATGACAAGAACATTAGCCTCCGGGAGAATATCCTGGTTTCACCTGGAGCTGTGGGTGAGGGCTTTC ACAACTACCACCACTCCTTTCCCTATGACTACTCTGCCAGTGAGTACCGCTGGCACATCAACTTCACCACATTCT TCATTGATTGCATGGCCGCCTTCGGTCTGGCCTACGACCAGAAGAAGTCTCCAAGGCCGCCATCTTGGCCAGGA TTAAAAGAACCGGAGAGGGAAACTACAAGAGTGGCTGAGTTTGGGGTCCCTCAGGTTCCTTCTTCAAAAGCCAGC CAGGCAGAGGTTTTAATGTCTGTTTATTAACTACTGAATAATGCTACCAGGATGCTAAAGATGATGATGATAACC CATTCCAGTACAGTATTCTTTTAAAATTCGAAAGTATTGAAAGCCAACAACTCTGCCTTTATGATGCTAAACTGA ${\tt CATTATTTCTTCTTCTTCTTCTTCTTCTAGGCCCATTGTCCTCTTTTCACTTTGTTGCTATCATCCTCCT}$ ${\tt TTCTCTTATTGCCACCCAGGCAAGCAGCTGGTCAGTCTTTGTTCAGTGTCCAGCCTAGACCAAGCCTAGACCACCTT}$ TCTGTAGCCTAAAACGAATGGTCTCTGCTCCAGATAACTCTCTTTCCTTGAGCTGTTGTGAGCTTTGAAGTAGGT GGCTTGAGCTAGAGATAAAACAGAATCTTCTGGGTAGTCCCCTGTTAATTATCTTCAGCCCAGGCTTTTGCTAGA TGGAATGGAAAAGCAACTTCATTTGACACAAAGCTTCTAAAGCAGGTAAATTGTTGGGGGAGAGAGTTAGCATGT AGGACTTCAAGCCCCACCACATAGCATGCTTCCTTTCTCTCCTGGCTTGGGGTAAGAAGTGGCTGTGGTGTTTGG CAATGCTAATTCAATGCCGCAACATATAGTTTAGGCCAAGGATAAAGAAGAGACACTTTAAGTTTGTAGTAAAAG TGGTCTCTGCTGGGGAAGGGTTTTCTTTTTTTTTTTTTAATAACAAGGAGATTTCTTAGTTCATGTATCAAG AATTCTTGAAGTTGGGTGTTTCCATAATTGGTAAAAACAGCAGCTCACAGAATTTTGAGTATTCCATGAGCTGCT CATCACAGTTCTTTCCTCTTTCTGCTCTGCCATCTTCAGGATATTGGTTGTTCCCCTCATAGTAATAAGATGGCT AAGGAGAGGAGGAATTAGTTGGGATGCCAATTTCCTCTCCACTGCTGTACATGAGATGGGGAGGTTGAGGGACAG GATCTATAGGCAGCTTCTAAGAGCAAACTTCACACAGGAAGGGATCTGAGAACACATTGCCGGGGGCTTGAGAAG CTCCTTGAAATGAGTAAAAACTAGAAGGCTTCTCCCCACAGTGTTGTGCCCCTTCACTCATTTTTATTGGCGGG GTGGGGGGCTCTGTTAACATCTAGCCTAAGTATAGAACTGCCTGGGGGGCAGGGTTAGGAATCTCTTCACTACCC TGATTCTTGATTCCTGGTTCTACCCTGTCTGTCCCTTTTCTTTTACTAGATCTTTCTCTCCCTGAACGTTTTCT CCTCCGGAGTGTCTCCACCTACACCTCTGTGCTCCCCCGCCACACTGATGGCTCAAGACAAGGCTGGCAAACCCT ATGCTGAATGCCCCTCTGCTTGCTCGGTAAGGGTGCCCCACCTGAATCAGTGCTCTCAGCTGGCAGTGCAATGCT TGTAGAAGTAGGAGGAAACAGTTCTCACTGGGAAGAAGCAAGGGCAAGAACCCAAGTGCCTCACAAAAGGAG

5105/6881 FIGURE 4712B

GCCCTGTTCCCTGGAGTCAGGGTGAACTGCAAACCTTTGGCTGAGACCTGGGATTTGAGATACCACAAACCCTGC TGAACAGAGTGTCTGTTCAGCAAACTAACCAGCATTCCCTATAGCCTAGGGAATAGTATAGAAGTCTGGCAAAAA CAGAAACAGAACATCAGTGTTTTGAGAACCTTGGACTACTCCTGTCCCTGTAGCTCAGTCATCAAAGCAGAAGCC TGGCTTTGCTCTATTAAGATTGGAAATGTACACTACCAAACACTCAGTCCACTGTTGAGCCCCAGTGCTGGAAGG AAGGAGGCCTTTCTTCCTGTGTTAATTGCATGGAGGCTACAGGGGTTAGCCTGGACTAAAGGCATCCTTGTGTT TTGAGCTATTCACCTCAGTAGAAAAGAATCTAAGGGAAGATCACTGTAGTTTAGCTCTGTTGACCTGTGCACCTA CCCCTTGGAAATGTCTGCTGTTATTTCTAATTCCACAGGTCATAAGATGCCTTCTTGATGATATATGAACGATAA AAACAACTTTCACTTCCTATTGTAATCGTGTGCCATGGATCTGATCTGTACCATGACCCTACATAAGGCTGG ATGCACCCTCAGGCTGAGGGCCCCAATGTATGTGTGGCTGTGGGTGTGGGTGTGGGTGTATCTGCTGAGTAAGG AACACTATTCTCAAGATTCTAAAGCTCAATTCAAGTGACACATTAATGATAAACTCAGATCTGATCAAGAGTCTG GATTTCTAACAGTCCTTGCTTCGGGGCTGTGCTGGCAACTTAACTCGGGTGCCTTACATCTTTTCTAATCATAGT GTTGCATATGAGCCTGCCCTCACTCCCTCTGTGGAATCCCTTTGCACCTGAGAGCCTACTGAAGTGGCTGGTAGA AAAAGGGGCCTGAGTGAAGGATTATCAGTATCGCGATTTGCAGGATTCCCTTCTGGGCTTCATTCTGGAAACTTT TGTTAGGGCTGCTTTTAAGTGCCCACATTTGATGGAGGGTGGAAGTAATTTGAATGTATTTGATTATATATA TATATTTTTAAGGTTAAAAGATGGTTGTAGCATTTAAAATGGAAAATTTTCTCCTCGGTTTGCTAGTATCTTGGG TGTATTCTCTCTAAGTGTAGCTCAAATAGGTCATCATGAAAGGTTAAAAAAGTGAGGTGGCCATGTTACGCTGGT GGTTAAGGCCAGGGCCTCTCCTACCACTGTGCCACTGACTTGCTATGTCACCCTGGGCAAGTCACTTAACTATAA CTAATGCTTTTTAGAAAGCATTTTGGGATCCTTCAGCACAGGGATTCTCAAGACCTGAGTATTTTTTATAATAGC AATGTCCACCATCAACTTGATATGTCCGTGTGTCCCAGATGCTGTCATTAGTCTATATGGTTCTCCAAAAAATTG AATGAATCCATTGGAGAAGCAGTGGATTAACTAGCCAGACAAAATTTGAGAATGCATAAAAAAACACATTGCCACG GAAACATACAGAGGATGCCTTTTCTGTGATTGGGTGGGATTTTTTCCCTTTTTATGTGGGACATAGTAGTTACTT GTGACAAGAATAATTTTGGAATAATTTCTATTAACATCAACTCTGAAGCTAATTGTACTAATCTGAGATTGTGTT **TGTTTATAATAAAAGTGAAGTAATC**

ACGGTCACCCGTTGCCAGCTCTAGCCTTTAAATTCCCGGATCGGCACCTCCACGCACCGCGCTAGCGCCGACA AACTCCGCCCCGGAGCCTCAGCCCCTGGAAAGTGATCCTGGCATCCGAGAGCCAAGATGCCGGCCCACTTGCTGC AGGACGATATCTCTAGCTCCTATACCACCACCACCACCACTTACAGCGCCTCCTTCCAGGGTCCCGCAGAATG ACCTCACCTACAAGGATAAGGAAGGCCCAAGCCCCAAGGTTGAATATGTCTGGAGAAACATCATCCTTATGTCTC TGCTACACTTGGGCGCCCTGTATGGGATCACTTTGATTCCTACCTGCAACTTATACACCTGGCTTTGGGGGGTAT TCTACTATTTTATCAGTGCCCTGGGCATAACAGCAGGAGCTCATCCTCTGTGGAGCCACTGATCTTACAAAGCTC GGCTGTCCCTGTGGCTCTTTCTGATCATTGCCAACACAATGGCATTCCAGAATGATGTCTATGAATGGGCTCGCG ACCACCGTGCCCACACAGTTTTCAGAAACACATGCTGATCCTCATAATTCCTGACGTGGCTTTTTCTTCTCTC AAGCCGAGAAACTGGTGATGTTCCAGAGGAGGTACTACAAACCCGGCTTGCTGTTGATGTGCTCATCCTGCCCA CGCTTGTGCCCTGGTGTTTCTGGGGTGAAACTTTTCAAAACAGCGTGTTCGTTGCCACTTTCTTGCGATATGCTG TGGTGCTTAATGCCACGTGGCTGGTGAACAGTGCTGCCCACCTCTTCAGATATCGTCCTTATGACAAGAACATTA GCCTCCGGGAGAATATCCTGGTTTCACCTGGAGCTGTGGGTGAGGGCTTTCACAACTACCACCACTCCTTTCCCT GTCTGGCCTACGACCAGAAGAAAGTCTCCAAGGCCGCCATCTTGGCCAGGATTAAAAGAACCGGAGAGGGAAACT TATTAACTACTGAATAATGCTACCAGGATGCTAAAGATGATGATGATGATAACCCATTCCAGTACAGTATTCTTTTAA AATTCGAAAGTATTGAAAGCC

MKFNPFVTSDRSKNRKRHFNAPSHIRRKIMSSPLSKELRQKYNVRSMPIRKDDEVQVVRGHYKGQQIGKVVQVYR KKYVIYIERVQREKANGTTVHVGIHPSKVVITRLKLDKDRKKILERKAKSRQVGKEKGKYKEETIEKMQE

5109/6881 FIGURE 4716A

GGAGAAGGCGGCGGAAGTTCCACGCCAAGATACTGGATTCGGTGCTGAGGCGGCGGCTGCGGCACGGGAAAGGC TCAGTGACTGAAGCTCCAAAGGCCAGCAGGCTGGTGGGGACCGAAGCGAGGCTCTGGTTCCCTTTCGGTG GGCGCCATTTGAGCCTCATCTCTGGCTTCCCCAGGATGCGCCGGCAGCCGGGGAGCGGCTCCGGGCGCGAGGTCT GAGGATGATCTTTCCTGTCGCCCCCTACGCGCTCCGGTGGCTGCGACGGCCCGAAGACCGTGCCTTTTCCCGCGC TTATCATCTGTATGGCCAGAATGTTACCATGGTAATGACTTCAGTTTCTGGACATTTACTGGCTCATGATTTCCA GATGCAGTTTCGAAAATGGCAGAGCTGCAACCCTCTTGTCCTCTTTGAAGCAGAAATTGAAAAGTACTGCCCAGA TGATAGAGAAGCCGAAAACATCGGGTTTGAGATTATCCACGTGTGTAAGGCTGTAAAGCCCAATCTGCAGGTGTT GCGAGCCCGATTCTCTGAGATCACACCCCATGCCGTCAGGACAGCTTGTGAAAACCTGACCGAGCCTGATCAGAG GGTGAGCGATGCTGTGGATGTGAGGCAGGAGCTGGACCTGAGGATTGGAGCTGCCTTTACTAGGTTCCAGACCCT GCGGCTTCAGAGGATTTTTCCTGAGGTGCTGGCAGAGCAGCTCATCAGTTACGGCAGCTGCCAGTTCCCCACACT GGGCTTTGTGGTGGAGCGGTTCAAAGCCATTCAGGCTTTTGTACCAGAAATCTTCCACAGAATTAAAGTAACTCA TGACCACAAAGATGGTATCGTAGAATTCAACTGGAAAAGGCATCGACTCTTTAACCACACGGCTTGCCTAGTTCT CTATCAGTTGTGTGGGGGGTCCCATGGCAACTGTGGTAGAGGTCAGATCTAAGCCCAAGAGCAAGTGGCGGCC TCAAGCCTTGGACACTGTGGAGCTTGAGAAGCTGGCTTCTCGAAAGTTGAGAATAAATGCTAAAGAAACCATGAG GATTGCTGAGAAGCTCTACACTCAAGGGTACATCAGCTATCCCCGAACAGAAACAATTTTTCCCAGAGACTT AAACCTGACGGTGTTGGTGGAACAGCAGACCCCCGATCCACGCTGGGGGGCCTTTGCCCAGAGCATTCTAGAGCG CAACTTACAGGGAGATGAACAGCGACTGTACGAGTTTATTGTTCGCCATTTCCTGGCTTGCTGCTCCCAGGATGC TCAGGGGCAGGAGACCACAGTGGAGATCGACATCGCTCAGGAACGCTTTGTGGCCCATGGCCTCATGATTCTGGC CCGAAACTATCTGGATGTGTATCCATATGATCACTGGAGTGACAAGATCCTCCCTGTCTATGAGCAAGGATCCCA TGCCCTCATGGAGAAGCATGGCATTGGTACGGATGCCACTCATGCGGAGCACATCGAGACCATCAAAGCCCGGAT GTACGTGGGCCTCACCCCAGACAAGCGGTTCCTCCCTGGGCACCTGGGCATGGGACTTGTGGAAGGTTATGATTC CATGGGCTATGAAATGTCTAAGCCTGACCTCCGGGCTGAACTGGAAGCTGATCTGAAGCTGATCTGTGATGGCAA AAAGGACAAATTTGTGGTTCTAAGGCAGCAAGTGCAGAAATACAAGCAGGTTTTCATTGAAGCGGTGGCTAAAGC AAAGAAATTGGACGAGGCCTTGGCCCAGTACTTTGGGAATGGGACAGAGTTGGCCCAGCAAGAAGATATCTACCC AGCCATGCCAGAGCCCATCAGGAAGTGCCCACAGTGCAACAAGGACATGGTCCTTAAGACCAAGAAGAATGGCGG GTTCTACCTCAGCTGCATGGGTTTCCCAGAGTGTCGCTCAGCTGTGTGGCTTCCTGACTCGGTGCTGGAGGCCAG CAGGGACAGCAGTGTGTCCAGTTTGTCAGCCACACCCTGTGTACAGGTTAAAGTTAAAGTTTAAGCGCGGTAG CCTTCCCCGACCATGCCTCTGGAGTTTGTTTGCTGCATCGGCGGATGCGACGACACCCTGAGGGAGATCCTGGA CCTGAGATTTTCAGGGGGCCCCCCAGGGCTAGCCAGCCCTCTGGCCGCCTGCAGGCTAACCAGTCCCTGAACAG CCCACCACCACGGCTGCTGGTGAAAGCAATTCTGTGACCTGCAACTGTGGCCAGGAGGCTGTGCTGCTCACTGT CCGTAAGGAGGCCCCAACCGGGCCGGCAGTTCTTTAAGTGCAACGGAGGTAGCTGCAACTTCTTCCTGTGGGC AGACAGCCCCAATCCGGGAGCAGGAGGGCCTCCTGCCTTGGCATATAGACCCCTGGGCGCCTCCCTGGGATGCCC ACCAGGCCCAGGGATCCACCTAGGTGGGTTTGGCAACCCTGGTGATGGCAGTGGTAGTGGCACATCCTGCCTTTG CAGCCAGCCTCCGTCACACGGACTGTGCAGAAGGATGGACCCAACAAGGGGCGCCAGTTCCACACATGTGCCAA GCCGAGAGAGCAGCAGTGTGGCTTTTTCCAGTGGGTCGATGAGAACACCGCTCCAGGGACTTCTGGAGCCCCGTC CTGGACAGGAGACAGAGCAGAGCCTGGAGTCGGAAGCCAGAAGCAAAAGGCCCCGGGCCAGTTCCTCAGACAT GGGGTCCACAGCAAAGAAACCCCGGAAATGCAGCCTTTGCCACCAGCCTGGACACACCCGTCCCTTTTGTCCTCA GAACAGATGAGCTCAGGGTAGGGTAGAGAACGCCACTTTCTCAGACCTGTCCCCTTTGTGTTTAGAAATGAGTTA ACCAGGACCAAGTGGCCATTTAGTGTCCTGGAAACTTAGAGGACAGTGTTGGCCTTTGGAGTCGGGCCTTCTTGT GTTAAGGGGCACAAGGTCCAGATCACTCTGGAGCAGGCCAGCTCTGCTGGACAGTGACCCTCTTCCCAGGCCTCA GGAGTGACCATAGCCACTGCTGAAAAGTCACGCAGCTGCTCCCTCGGACCCCCCAAGGATGGTTGCTGTTAGCAG

5110/6881 FIGURE 4716B

AGAAAGCCCCAAGTGAGCCACCAGCACTCATGGGGCAGTCCCTGTCCAGGGCTGCCCAGGGCTTCTCATAGACGTC
CTGAGAAGGACGGTGTAATGCAAGGAAATGGCTGTGGTAACACTGATCCTTCAGAAGAAGCTTCATTCCCTCTTA
ATCTAGTTAAGCCAGGACATCCAGAATTCATTGCTTTAATAAAGAACCCAGGCCGGG

MIFPVARYALRWLRRPEDRAFSRAAMEMALRGVRKVLCVAEKNDAAKGIADLLSNGRMRRREGLSKFNKIYEFDY
HLYGQNVTMVMTSVSGHLLAHDFQMQFRKWQSCNPLVLFEAEIEKYCPENFVDIKKTLERETRQCQALVIWTDCD
REGENIGFEIIHVCKAVKPNLQVLRARFSEITPHAVRTACENLTEPDQRVSDAVDVRQELDLRIGAAFTRFQTLR
LQRIFPEVLAEQLISYGSCQFPTLGFVVERFKAIQAFVPEIFHRIKVTHDHKDGIVEFNWKRHRLFNHTACLVLY
QLCVEDPMATVVEVRSKPKSKWRPQALDTVELEKLASRKLRINAKETMRIAEKLYTQGYISYPRTETNIFPRDLN
LTVLVEQQTPDPRWGAFAQSILERGGPTPRNGNKSDQAHPPIHPTKYTNNLQGDEQRLYEFIVRHFLACCSQDAQ
GQETTVEIDIAQERFVAHGLMILARNYLDVYPYDHWSDKILPVYEQGSHFQPSTVEMVDGETSPPKLLTEADLIA
LMEKHGIGTDATHAEHIETIKARMYVGLTPDKRFLPGHLGMGLVEGYDSMGYEMSKPDLRAELEADLKLICDGKK
DKFVVLRQQVQKYKQVFIEAVAKAKKLDEALAQYFGNGTELAQQEDIYPAMPEPIRKCPQCNKDMVLKTKKNGGF
YLSCMGFPECRSAVWLPDSVLEASRDSSVCPVCQPHPVYRLKLKFKRGSLPPTMPLEFVCCIGGCDDTLREILDL
RFSGGPPRASQPSGRLQANQSLNRMDNSQHPQPADSRQTGSSKALAQTLPPPTAAGESNSVTCNCGQEAVLLTVR
KEGPNRGRQFFKCNGGSCNFFLWADSPNPGAGGPPALAYRPLGASLGCPPGPGIHLGGFGNPGDGSGSGTSCLCS
QPSVTRTVQKDGPNKGRQFHTCAKPREQQCGFFQWVDENTAPGTSGAPSWTGDRGRTLESEARSKRPRASSSDMG
STAKKPRKCSLCHQPGHTRPFCPQNR

5113/6881 FIGURE 4719A

ACCTCAGCGGCAACGACTTCAAGGGCGGCTACTTCCCTGAGAATGTCAAGGCCATGACCAGCCTGCGGTGGCTGA AGCTGAACCGCACTGGCCTCTGCTACCTGCCCGAGGAGCTGGCCGCCCTGCAGAAGCTGGAACACTTGTCTGTGA GCCACAACAACCTGACCACGCTTCATGGGGAGCTGTCCAGCCTGCCATCGCTGCGCCCATCGTGGCCCGAGCCA ACAGTCTGAAGAATTCCGGAGTCCCCGATGACATCTTCAAGCTAGATGATCTCTCAGTCCTGGACTTGAGCCACA ACCAGCTGACAGAGTGCCCGCGGGAGCTGGAGAACGCCAAGAACATGCTGGTGCTGAACCTCAGCCACAACAGCA TCGACACCATCCCCAACCAGCTCTTCATCAACCTCACTGACCTACTATACCTGGACCTCAGCGAGAACCGCCTGG AGAGCCTGCCCCGCAGATGCGCCGCCTGGTGCACCTGCAGACGCTCGTGCTCAATGGAAACCCCCTGCTGCATG CACAGCTCCGGCAGCTCCCAGCGATGACGGCCCTGCAGACCCTGCACCTGCGGAGCACCCAGCGCACCCAGAGCA ACCTGCCCACCAGCCTGGAGGGTCTGAGCAACCTCGCAGACGTGGATCTGTCCTGCAATGACCTGACACGGGTGC CCGAGTGTCTGTACACCCTCCCCAGCCTGCGCCGCCTCAACCTCAGCAGCAACCAGATCACGGAGCTGTCCCTGT GCATAGACCAGTGGGTGCACGTGGAAACTCTGAACCTGTCCCGAAATCAGCTCACCTCACTGCCCTCAGCCATTT GCAAGCTGAGCAAGATGAAGAAGCTGTACCTGAATTCCAACAAGCTGGACTTTGACGGGCTGCCCTCAGGCATTG GCAAGCTCACCAACCTGGAAGAGTTCATGGCTGCCAACAACCACCTGGAGCTGGTCCCTGAAAGTCTCTGCAGGT AGATCGAGGTCCTGGATGTGCGGGAGAACCCCAACCTGGTCATGCCGCCCAAGCCCGCAGACCGTGCCGCTGAGT GGTACAACATCGACTTCTCGCTGCAGAACCAGCTGCGGCTAGCGGGTGCCTCTCCTGCTACCGTGGCTGCAGCTG CAGCTGCAGGGAGTGGGCCCAAGGACCCTATGGCTCGCAAGATGCGACTGCGGAGGCGCAAGGATTCAGCCCAGG ATGACCAGGCCAAGCAGGTGCTGAAGGGCATGTCAGATGTTGCCCAGGAGAAGAACAAAAAGCAGGAGGAGAGCG CAGATGCCCGGGCCCCCAGCGGGAAGGTGCGGCGTTGGGACCAGGGCCTGGAGAAGCCCCGCCTTGACTACTCCG AGTTCTTCACGGAGGACGTGGGCCAGCTGCCCGGACTGACCATCTGGCAGATAGAGAACTTCGTGCCTGTGCTGG $\tt TGGAGGAAGCCTTCCACGGCAAGTTCTACGAGGCTGACTGCTACATTGTGCTCAAGACCTTTCTGGATGACAGCG$ GCTCCCTCAACTGGGAGATCTACTACTGGATTGGCGGGGGGGCCACACTCGACAAGAAAGCTTGCTCTGCCATCC ACGCTGTCAACTTGCGCAACTACCTGGGTGCTGAGTGCCGCACTGTCCGGGAGGAGATGGGCGATGAGAGCGAGG AGTTCCTGCAGGTGTTTGACAACGACATCTCCTACATTGAGGGTGGAACAGCCAGTGGCTTCTACACTGTGGAAG ACACACACTATGTCACCAGGATGTATCGTGTGTATGGGAAAAAGAACATCAAGTTGGAGCCTGTGCCCCTCAAGG GGACCTCTCTGGACCCAAGGTTTGTTTTCCTGCTGGACCGAGGGCTAGACATCTACGTATGGCGGGGGCCCAGG CCACACTGAGCAGCACCACCAAGGCCAGGCTCTTTGCAGAGAAAATTAACAAGAATGAGCGGAAAGGGAAGGCTG AGAAGCACGTGCCTGAAGACTTCTGGCCGCCGCAGCCCAAGCTGTACAAGGTGGGCCTGGGCTTGGGCTACCTGG AGCTGCCACAGATCAACTACAAGCTCTCCGTGGAACATAAGCAGCGTCCCAAGGTGGAGCTGATGCCAAGAATGC GGCTGCTGCAGAGTCTGCTGGACACGCGCTGCGTGTACATTCTGGACTGTTGGTCCGACGTGTTCATCTGGCTCG GCCGCAAGTCCCCGCGCCTGGTGCCGCCTCCCCCCCCAAGCTGGGTCAGGAGCTGTGCGGGATGCTGCACCGGC CACGCCATGCCACGGTCAGCCGCAGCCTCGAGGGCACCGAGGCGCAGGTGTTCAAGGCCAAGTTCAAGAATTGGG ACGATGTGTTGACGGTGGACTACACACGCAATGCGGAGGCCGTGCTGCAGAGCCCGGGTCTCTCCGGGAAGGTGA AACGCGACGCCGAGAAGAAAGACCAGATGAAGGCTGACCTCACTGCGCTTTTCCTGCCGCGGCAGCCGCCCATGT CGCTGGCCGAGGCGGAGCAGCTGATGGAGGAGTGGAACGAAGACCTAGACGCATGGAGGGTTTCGTGCTGGAGG GCAAGAAGTTTGCGCGGCTGCCGGAAGAGGAGTTTGGCCACTTCTACACGCAGGACTGCTACGTCTTCCTCTGCA GCGAGGAAGCAACCGCTGAGGCAGAGGAGAAGCAGCCAGAGGAGGACTTCCAGTGCATCGTGTACTTCTGGCAGG GCCGTGAAGCCTCCAATATGGGCTGGCTCACCTTCACCTTCAGCCTGCAAAAGAAGTTCGAGAGCCTCTTCCCTG GGAAGCTGGAGGTGGTACGCATGACGCAGCAGCAGGAGAACCCCAAGTTCCTGTCCCATTTCAAGAGGAAGTTCA TCATCCACCGGGGCAAGAGGAAGGCGGTCCAGGGCGCCCAACAGCCCAGCCTCTACCAGATCCGCACCAACGGCA GCGCCCTCTGCACCCGGTGCATCCAGATCAACACCGACTCCAGCCTCCTCAACTCCGAGTTCTGCTTCATCCTCA AGCCTGAGAACTTCTTCTGGGTGGGCATTGGGGCACAGAAGCCCTATGATGACGATGCCGAGTACATGAAACACA CACGTCTCTTCCGGTGCTCCAACGAGAAGGGCTACTTTGCAGTGACTGAGAAATGCTCCGACTTTTGCCAAGATG

5114/6881 FIGURE 4719B

MEATGVLPFVRGVDLSGNDFKGGYFPENVKAMTSLRWLKLNRTGLCYLPEELAALQKLEHLSVSHNNLTTLHGEL SSLPSLRAIVARANSLKNSGVPDDIFKLDDLSVLDLSHNQLTECPRELENAKNMLVLNLSHNSIDTIPNQLFINL TDLLYLDLSENRLESLPPQMRRLVHLQTLVLNGNPLLHAQLRQLPAMTALQTLHLRSTQRTQSNLPTSLEGLSNL ADVDLSCNDLTRVPECLYTLPSLRRLNLSSNQITELSLCIDQWVHVETLNLSRNQLTSLPSAICKLSKLKKLYLN SNKLDFDGLPSGIGKLTNLEEFMAANNNLELVPESLCRCPKLRKLVLNKNHLVTLPEAIHFLTEIEVLDVRENPN LVMPPKPADRAAEWYNIDFSLQNQLRLAGASPATVAAAAAAGSGPKDPMARKMRLRRRKDSAQDDQAKQVLKGMS DVAQEKNKKQEESADARAPSGKVRRWDQGLEKPRLDYSEFFTEDVGQLPGLTIWQIENFVPVLVEEAFHGKFYEA DCYIVLKTFLDDSGSLNWEIYYWIGGEATLDKKACSAIHAVNLRNYLGAECRTVREEMGDESEEFLQVFDNDISY IEGGTASGFYTVEDTHYVTRMYRVYGKKNIKLEPVPLKGTSLDPRFVFLLDRGLDIYVWRGAQATLSSTTKARLF AEKINKNERKGKAEITLLVQGQELPEFWEALGGEPSEIKKHVPEDFWPPQPKLYKVGLGLGYLELPQINYKLSVE HKQRPKVELMPRMRLLQSLLDTRCVYILDCWSDVFIWLGRKSPRLVRAAALKLGQELCGMLHRPRHATVSRSLEG TEAQVFKAKFKNWDDVLTVDYTRNAEAVLQSPGLSGKVKRDAEKKDQMKADLTALFLPRQPPMSLAEAEQLMEEW NEDLDGMEGFVLEGKKFARLPEEEFGHFYTQDCYVFLCRYWVPVEYEEEEKKEDKEEKAEGKEGEEATAEAEEKQ PEEDFQCIVYFWQGREASNMGWLTFTFSLQKKFESLFPGKLEVVRMTQQQENPKFLSHFKRKFIIHRGKRKAVQG AQQPSLYQIRTNGSALCTRCIQINTDSSLLNSEFCFILKVPFESEDNQGIVYAWVGRASDPDEAKLAEDILNTMF DTSYSKOVINEGEEPENFFWVGIGAOKPYDDDAEYMKHTRLFRCSNEKGYFAVTEKCSDFCQDDLADDDIMLLDN GQEVYMWVGTQTSQVEIKLSLKACQVYIQHMRSKEHERPRRLRLVRKGNEQHAFTRCFHAWSAFCKALA

5116/6881 FIGURE 4721A

AGACTGTGGAGCATGGCTTCCCCAATCAGCCCAGCGCCCTGGCCTTCGACCCGGAACTTCGCATCATGGCCATCG GCACCAGGTCTGGGGCTGTCAAGATCTATGGTGCACCTGGCGTGGAGTTCACAGGCCTGCACCGGGATGCAGCCA CTGTCACACAGATGCACTTCTTGACCGGCCAGGGCCGCCTCCTGTCCCTGCTTGATGACAGCAGTCTGCATCTCT GGGAGATTGTCCACCATAATGGCTGTGCCCACCTGGAAGAAGCACTCAGTTTCCAGCTGCCCAGCCGGCCCGGCT TTGATGGTGCCAGTGCTCCGCTCAGCCTTACCCGAGTCACAGTGGTCCTGGTGGTGGCTGCCGGCGACATAGCAG CCCTGGGCACTGAGGGCAGCAGTGTCTTCCTGGATGTTACCACCCTGACCCTGCTCGAGGGGCAGACGCTTG CCCCAGGCGAGGTTCTGCGCAGCGTGCCAGACGACTACCGCTGTGGGAAGGCACTGGGCCCCGTGGAGTCACTCC AGGGACACCTGCGGGACCCCACAAAGATTCTCATTGGCTACAGCCGGGGCCTGCTGGTCATCTGGAACCAGGCCT CGCAGTGTGTGGACCACATCTTCCTGGGGAACCAGCAGCTGGAGAGCCTATGCTGGGGGGCGTGATAGCAGCACTG TGGTCAGCTCACACAGCGATGGCAGCTATGCTGTCTGGTCTGTGGATGCCGGCAGCTTCCCAACGCTGCAGCCCA CGGTAGCCACACCTTACGGCCCCTTTCCCTGCAAGGCCATTAACAAGATTCTGTGGCGGAACTGTGAATCTG GGGGCCACTTTATCATCTTCAGCGGTGGCATGCCCCGTGCCAGCTATGGTGACCGCCACTGTGTAAGTGTGCTTC GAGCCGAGACATTGGTGACGCTGGACTTCACTTCCCGCATCATCGACTTCTTCACAGTGCACAGCACACGGCCCG AGGATGAATTTGATGACCCCCAGGCCCTGGCTGTGCTGCTGGAAGAGGAGCTGGTGGTGCTGGACCTGCAGACTC CTGGCTGGCCAGCTGTGCCTGCCCCATACCTGGCCCCGCTGCACTCCTCTGCAATCACTTGCTCGGCCCACGTGG CCAGTGTCCCCGCCAAGCTGTGGGCCCGCATTGTGAGCGCTGGCGAGCAGCAGAGCCCCCAGCCTGTCTCCAGTG CCTTGAGCTGGCCCATCACTGGGGGCCGAAACCTGGCCCAGGAGCCGTCACAGCGAGGGCTGCTGACGGGCC ATGAGGACGCACCGTGAGGTTCTGGGATGCCTCGGGTGTGGCGCTGCGGCCGCTCTATAAGCTGAGCACAGCTG GCCTCTTCCAGACAGACTGTGAGCACGCTGACAGCCTGGCCCAGGCTGCCGAGGACGACTGGCCACCCTTCCGCA AGGTGGCTGCTTCGATCCCTACAGTGACGATCCCCGGCTTGGCGTGCAGAAGGTTGCTCTCTGCAAGTATACAG CCCAGATGGTGGTGGCTGCCAGGCCAGGTGCTGGTACTGGAGCTTAGTGATGTGCCGGTGGAGCAGGCGG TCAGCGTGGCCATCATAGACCTCCTCCAGGACCGCGAGGGCTTCACATGGAAGGGCCACGAGCGGCTGAGCCCAC CCGCTGTCACACTCCACACCGAGTGGAGCCTCGTGGCTTTTGGCACCAGTCATGGCTTTGGCCTCTTCGACTACC AGCGCAAGAGCCCTGTGCTGGCCAGGTGCACTCTTCACCCCAATGACTCCCTGGCCATGGAGGGTCCGCTCTCCC GGGTGAAGTCTCTCAAGAAGTCACTGCGCCAGTCTTTCCGGCGCATTCGCAAGAGTCGTGTCTCTGGCAAGAAGC CGCCCGTGCAGCGCCGCATTGAGCCCCGCTCTGCCGATGACTCCTTGTCGGGTGTCGTGCGTTGCCTATACTTTG CCGACACATTCCTTCGAGATGGGGCCCACCACGGGCCCACCATGTGGGCTGGCACCAACTCAGGCTCTGTGTTCG CCTATGCACTGGAGGTGCCGGCAGCAGCAGTGGGTGGTGAGAAGCGGCCTGAGCAAGCGGTGGAGGCCGTGCTGG GCAAGGAGGTGCAGCTGATGCACCGGGCGCCTGTGGTGGCCATTGCCGTGTTGGACGGGCGTGGCCGCCCACTGC CCGAGCCCTACGAGGCCTCACGGGACCTGGCGCAGGCACCTGACATGCAGGGTGGTCACGCTGTGCTCATCGCAT CTGAGGAGCAGTTCAAGGTGTTCACACTGCCCAAGGTGAGCGCGAAGACCAAGTTCAAGCTGACGGCCCATGAGG CCTGCCTCACCAACCTGGGTGACGTCCACGTCTTCTCGGTGCCTGGGCCTGCGGCCCCAGGTGCACTATTCCTGCA ${\tt TCCGGAAGGAGGACATCAGCGGCATCGCTTCGTGCGTCTTTACGCGCCATGGCCAGGGCTTTTACCTGATATCCC}$ CATCAGAATTTGAACGCTTCTCCCTAAGTGCCCGGAACATCACAGAGCCGCTCTGCTCTCTGGACATTAACTGGC CCCGCGATGCCACCCAGGCCAGTTACAGGATCCGAGAGTCACCCAAGCTGAGCCAGGCTAACGGGACCCCAAGCA TCCTGCTGGCCCCACAGAGCCTTGATGGAAGCCCTGATCCAGCCCACAGCATGGGACCTGACACCCCGGAGCCAC CCGAGGCTGCACTCTCACCCATGTCCATCGACTCAGCCACCAGTGCTGACACCACGCTGGACACGACAGGGGACA TCACAGTGGAAGATGTGAAGGATTTCCTGGGCTCCTCTGAGGAGTCAGAGAACCTGAGGAACCTGGCAGAAG ACGAGGCCCACGCCTGTGCCATCCTGATCAAATGAGGAAGGCCAGAACTATCCCGACCTCCACCTGCCCTGCTCG GAGCTGGAGTGCTGGATCCCTGGCACCTGCCTGGCCCCTTAACATAGAACCACGCCTGCTAACCTGTAGGCTCCA TGGGCCAGAACTGAGCCCTCCTGCAGGCATTTGGCTGCCCTGGGGGCCCACTGCCTAGGGAAGAGGACAGGTGGG GCCCAGCACCTGTGCCACCTCCCCCCCTCCACACACCCTTCCCCCTCACTTTGCAGAGTATTTTTCCTTTTT TTTTTTTTTTTTAAAGACGGAGTCTTGCTCTGTCGCCCAGGCTGGAGTGCAGTGGCCCCATCTCTGCTCACTGCA AGCCCCGCCTTCTGGGTTCCCGCCATTCTTCTGCCTCAGCCTCCCAAGTAGCTGGGACTACAGGCGCCCACCACC WO 2004/030615 PCT/US2003/028547

5117/6881 FIGURE 4721B

 ${\tt ACGCCCAGCTAATTTTTCTGTATTTTTAGTAGAGATGGGGTTTCACCATGTTAGCCAGGATGGTCTCG}$

MMKFRFRRQGADPQREKLKQELFAFNKTVEHGFPNQPSALAFDPELRIMAIGTRSGAVKIYGAPGVEFTGLHRDA ATVTQMHFLTGQGRLLSLLDDSSLHLWEIVHHNGCAHLEEALSFQLPSRPGFDGASAPLSLTRVTVVLLVAASDI AALGTEGSSVFFLDVTTLTLLEGQTLAPGEVLRSVPDDYRCGKALGPVESLQGHLRDPTKILIGYSRGLLVIWNQ ASQCVDHIFLGNQQLESLCWGRDSSTVVSSHSDGSYAVWSVDAGSFPTLQPTVATTPYGPFPCKAINKILWRNCE SGGHFIIFSGGMPRASYGDRHCVSVLRAETLVTLDFTSRIIDFFTVHSTRPEDEFDDPQALAVLLEEELVVLDLQ TPGWPAVPAPYLAPLHSSAITCSAHVASVPAKLWARIVSAGEQQSPQPVSSALSWPITGGRNLAQEPSQRGLLLT GHEDGTVRFWDASGVALRPLYKLSTAGLFQTDCEHADSLAQAAEDDWPPFRKVGCFDPYSDDPRLGVQKVALCKY TAQMVVAGTAGQVLVLELSDVPVEQAVSVAIIDLLQDREGFTWKGHERLSPRTGPLPWPAGFQPRVLVQCLPPAA VTAVTLHTEWSLVAFGTSHGFGLFDYQRKSPVLARCTLHPNDSLAMEGPLSRVKSLKKSLRQSFRRIRKSRVSGK KRAANASSKEANAQLAEQACPHDVEMTPVQRRIEPRSADDSLSGVVRCLYFADTFLRDGAHHGPTMWAGTNSGSV FAYALEVPAAAVGGEKRPEQAVEAVLGKEVQLMHRAPVVAIAVLDGRGRPLPEPYEASRDLAQAPDMQGGHAVLI ASEEQFKVFTLPKVSAKTKFKLTAHEGCRVRKVALATFASVACEDYAETCLACLTNLGDVHVFSVPGLRPQVHYS CIRKEDISGIASCVFTRHGQGFYLISPSEFERFSLSARNITEPLCSLDINWPRDATQASYRIRESPKLSQANGTP SILLAPQSLDGSPDPAHSMGPDTPEPPEAALSPMSIDSATSADTTLDTTGDVTVEDVKDFLGSSEESEKNLRNLA EDEAHACAILIK

5119/6881 FIGURE 4723A

GAGGATGCAGAGTGGGAGACCTTAAAACCGTCTGATCTGGCTGCTAAAGCGAGTGTCTGACGACCACCCATTAAC ACCAGCGAGTAGCGTTTGCTCACGGCTTTAGGATAAGAAGCCTGGAATGGTCCCCCCTCCGCCGGGAGAAGAAG CCAGACGGTCATCCTTCCACCTGGCTGGCAGAGCTACCTGTCGCCTCAGGGCCGGCGGTACTATGTCAACACGAC TCTGCCTCCAACAGTGAATGGATACCACGCATCAGGGACCCCAGCGCACCCTCCAGAGACTGCCCACATGAGTGT CCGAAAATCCACCGGTGATTCCCAGAACCTGGGATCCTCATCGCCAAGCAAAAAGCAGAGCAAGGAAAAACACCAT CTACTGCGACTACTTCTGGGCTGATAAGAAGGACCCCCAAGGCAACGGCACCGTGGCTGGGTTTGAACTACTGCT CCAGAAACAGCTGAAGGGCAAACAAATGCAGAAGGAAATGTCAGAATTCATCCGGGAAAGGATAAAGATTGAAGA AGACTATGCGAAGAACTTAGCTAAGCTCTCTCAGAACTCCTTGGCTTCACAGGAGGAAGGCTCCTTGGGAGAGGC GTGGGCCCAGGTGAAGAAGACCTGGCGGACGAAGCAGAAGTTCACCTCAAGTTCTCTGCCAAGCTTCACAGCGA CCTTCGCAAGCAGCTCGCCAGCCGCTATGCCTCGGTGGAGAAGGCCCGGAAAGCCCTCACAGAGCGGCAGAGAGA CCTGGAGATGAAGACCCAGCAGCTGGAGATCAAGCTGAGCAACAAGACAGAGGAGGACATCAAGAAGGCGCGGAG AAAGTCCACACAGGCTGGAGACGACCTCATGCGCTGTGTGGATCTCTACAACCAGGCCCAGTCCAAATGGTTTGA CCAGTACACGCAGCTGCGGCATGAAACAGACATGTTCAACCAAAGCACAGTCGAGCCCGTGGATCAGCTGCTTCG AAAAGTGGACCCGGCCAAAGACAGGGAGCTGTGGGTCAGAGAGACAAGACGGGCAACATCCGCCCTGTGGACAT GGAGATCTAGATGGGCCTGTGCAGCTTCGGGGGGTCCTGCTGGGXGAXXGGGGGGXCXTGGGCTCCCACCATGGG GCCCATGCCGAGTGGATGCCCCCCACCCTCTCTCTGGGCCACTGAGGAGAGGGGGAGAGAGCTGGTGATTCCAGA TGGTCCTTGCCGAGTTTTGTAGGGGTCACTGTCACATGCTTGTGCCCTGGAAGCCCCAAGGCTCTTCCTCCAGCT ATCATGGGTAGAAGGTGCCATTCAGCTCACAGCCGCACCCAGAATCCTTTGCAGCCCTCCTTCTTTATTTTTTTC CCATTGCATTCTGGGAGTCCACATCTGGCTTTCTCAGCCACTGTTCATCACCAGGGGTTTTAGGAGGAAGGCTTG GCTCCTGTCTTCCCAGACCCACCATGCCTGGAGAGGTCAGGATGGAACTACCTCATTCGGCAAATTAGCCCCAAA AGGCCAGCAAGCTGGGGCCTGTCCGCCACGGTGCCCTGTGCACCTTTGGGCTGCCCTGGCCCCACTCTCCCGGG CCGCCACCACAGGCTCTTAATGGGGCCGGGTCAGTCCTACATGTGAGATGGGTTAGGGCAAGTCTTTGCCATCC CCCAGATGGCTCTGTCTTCTTGTGTATGGCAGGGCTGGGACTGCTGTCCCTTGTACAGTTTTCTGTCACTGGTGG GCACTGGACAGGCATAGCAGACTCTCTTGTGGCCACACTAGGTTGTCGCCTTTCAGGCAGTGTCCCGCCACCTTT GCTTCCCGCTCCTTCTGGACATTCCAGAGCCCTGCACCAAACCCTTACTTGGTGTCTGCACCTCCTTTCCCTCTC TCCATCTTCCAATCCCTGGAAAAGTCTGGTCTGAGTGTGACTTGGGAAGCTTTCAGTGCTGCTGTTTGGCCCAGC TCATTACTTCTCCCTTTCTCTACCACAGCAAACACTTCTCCACCATGTCAAAGAGTCTAAAGAGTCTAAAGGGGCCG TTGACCACTTTGGGTTTGACCTGCACATCTGCAGTGAGGGCAGAATTCAACAAGCACAACTCACTGGTCTTTCAG TCAACGTGCTAGAAACCGATGACTTATTAATCTCTAATTTTTTGGCGCCTCTTTCATTGAATGAGAATTGCTTTC GTATAGTTCACATTAGAAAAATGCCTAATATACTAAAGTAAACCAAACGTTGTCACTTTTCTCTTGTTCTTGAAA CATTGCAACCAAAAAGGTCAGCACAAAGGCCTTCACCTACGTGAAGACCTCCTGGTAGGATCTGTCCATGGGATG GAGAACCACTCTGTCCAGATCTGGGGTTGGGTCATGACACCAGCTACCAATTTTAGAATATTATTTCTTGGTTTC TTTATGAAAAATGGGTGCTAGTGGTAATTGCTTTGTGGCTTAGTAAACTACTCTGTGGATGATTTCCAAACATTC AAAGCCAATAGCCTTGTTATTAACAAGATATTTTGAGTACAATATGGCTCATTGACTTTTCCATTACATCTGAGG ATTCCAGAGTCCTCTGTTCATCCCTGGGATAGAGTGAGCCCTCTTGCGTCTTCCAGGGTAGCTCAGGTTGGCCCA GTTTGGGCCAGTCCATTTTTGGAGGTCACTCTTTCCCCCCTCATCCCTCACCTCCTTCTCTTTACCCCCTTCAC GTACTTCCTTTCTTCCCTCTGTTATTCATCATCAAGCAGGTTAAAGCCATTGTGCTAAGATCTAATCTGA

5120/6881 FIGURE 4723B

GGACACTATAATGGCCCTGTCGTCAGGGAAGCCCGTGATCGCTCGTTTTCAGGGGTCTTACCGGTCAGCAACCTT GGCATTGATACATAGGCACTCTACAGAATTTAAGTTTTCAGAGGTAAGTCTGTTGTTCTGATTAATCTGCATTCA GCTCTCCTCTATTCTCCATGTCGACTGAGAAGAGTATAATAAGAACATTGTACCCTCTCCACACTTAACCCTCTG TTAATCACCTGGTCACCAGACCCTCACGGCCCATATCCAATTCGAATTTCAGAAATTTCTCTGTTTGCTTTAAAT AACTCTTTACAAATAAGGGTCGGGCACGGTGGCTCACGCCTGTAATCCCAGCTCTTTGGGAGGCCGAGGTGGGCA GATCACGAGGTCAGGAGATCGAGACCATCCTGGCTAACATGGTGAAACCCCGTCTCTGCTAAAAAATACAAAAAAT TAGCCAGATGTGGTGGTGCACACCTGTAGTCCCAACTATTCGGCAGGCTGAGGCAGTAGAATCGCTTGAACCTGG GAGGCGGAGATTGCAGTGAACCAAGATCGGGCCACTGCACTCCAGCTTGGGTGACAGAGCAAGACTCCATCTCAA AAAAATTATAAATAACTCTTTGCAAATAGGAAAGTGAAGCTCAAGGGTAACCAGTGAGGCTATGAAATTGCCAGT GAATTAAGACCAGGGCTAGAGTCAACAGTCCAGAACCCCTATCCGTATGAACAGGGGCCCGTTTCTGGTTGAAAT CAAGGTTAGGATGCAACTGAGAAAATAAAAGACTGCACTTTGGAGAGGCAAGCACGCTATCCGGGTTGTTGTTTT GTTTTATGTCTTGGTGCTTAGGTGAGGACTTAGCTGGGTTTATTCAAAGTGGGCGGTCTGGGCTATTCTTGAGA ATGTCCCTTCCATTTCTGAGAACAAGTCAGCCCCTTCTACCTGCCTCCACCCAGGAGACTGATGCACAAGATCTG GACCGTGGGGATGGCGCCCTGAGATTCTGTCAGTGGGACCACCCTGGGCCTCCTTTCTACCTCCACTCAGCACC CTGTTGGCCAAGGAGAATTTCTGCGGTGGGAGGCAGTGCTCTGCTAGTCAGGATTGATAAACAGCTGGGCACACC TGAGTGGATGGATGCAGAAAAATCTGGGCTGAGCCAAAGTCCCTTTTGGAAATACAAGCCATAACATTCGAAGGA CATCAGCGACCTTGGCTTGTTTAGGTGATTTTACTTCCAGCTGCAGGTAGTCTTGACAAGGAGTGTTTAAACAGA AGGCTCAAGATGCATTCCTTGTGTAGGTCGGAGAGAGCACTTCTAATGTTAAGTGGGGTACAGATCAGCTGCCCC CCCACGTAGCCTGGACATCGTCTTATCCCCATAATCCTTGCCATCCCTACAAGGCCCATCGCCACCACCTTTTCC CAGGTTTATTGAGGTATGACTTGACATCCAGTAAAATTCACCCTTTGGAAATATACAGCTCTGTGAATTTTGACAA ATTTAGTGTCTTGTGACCATCACCAGATCAACCTGTTTTTAACCCTCCAAAAAATTCCCTTCTCCTGCCCTCTT TCCCTGGCAACCCTGATTGATTATCTGATCCTATAATTTTGCCTTTTCTAGAATGTCATATAAATGGAGTCACAC TTGTTCCTTCTCTTGCCGGGAAGTATTTCATTGCATGGGCGTACTACTCTGCTTCTTTATTTTTACACTGAGCC TTCCCCAGGCTCCTCCAAATGCCAGCTGTGCCCACAAGCTGTTCTTAGGGCTCACACTCGCCTTTTGGCGCG ACGTCTGCTGCAACCTGAAGCTTGCATCTCAGCCAGCAGATCTGCTCCCTTCTGGGACCCAGGCTTCAGTGTCAC ACGGTCCTTGGCTATGTATTGGGCGTTGGAGGCTTTGAAAGGCGAGCAGAAGCATGGACAAGAAGGCTGGGG GAGTGTCTCAGGCCACCGGCAACTGCATGTACCTCCTCCCTTTCTCATTTCCAATGATGTACCCTGTACACGTGT TACTTTTCCATTTAGATTCAAATGGAGCTAAAATTAAGAGTTTTATGAGCTGTTAAGAATGAGGTAGTTTCTCCT AGGACCCCCAAAGACAGTGCAAGTAATGACCGTTTGGATCTCATTCGTCGATCTTTGATAGTATGTTCTGGAGT CTACTCCCCAGGAGCCAGGACAGGCGTGAAGATGGAGTCCTTGTCGCAGCTGGAGCCTTGCCTAGCTGGTGATCA CACAGCCTGGCCTGTACCTGCACCCCACTGGATGGTGGTACATGGTGGCAGGGACAGGACCACACCCCAGTTAAGG CCAGACCAGGCTGAGTGTGACCCCTGAGGTAAACACTCCACTAAGCTGTGTCTTGTTCATGCCCCCTGCTCAGTG AAAGGTGAGTCCCGAGACCAGTTGGGTACCTCTCTATGCGAACCAGAGACATTTCTGGATCCAGGCCAGGTGAAG ATTAGGGCCAGGAAGCCTGAGCCCCCGGGGCCTCAAGGTAGGGAGCCGAAGAGGCTGCCAGGACTCTGCTGGGTT GAAATTTGCCGGGGAGGACTCTTGTCTCCCCCTCAGGAGTATTTTTGTTGAGGCTTTCCTGGAGGTGAAGAAGCA ATTCCCATTGCAGCAGGTTAGAGCGAGAATCAGACAGAGGGCAAAAACCAATTCGCTTCTCCCCACGTTCTAAAT GCTGGGGCATGGCTGTCAGGAGGGCTTCCTGGGAGGTGTCTCTGGGGGTGAGGTTGGGGCGATGGCCTTT GGAGATTGCGTGTGGTGTTCAGGACTGTTCCTTGGTGTTTTGAGGGAAACTTTAGTGGGATTGCAGTGGAATGTAA

5121/6881 FIGURE 4723C

GCTGTCCTGAGCCTGAGTACTCTAGCTGCCTTGTCGCCATCGCATCTGGCTGCCATCCAGCGCCAGCACACAGTA ATGAGTGGCCGAGCTTCCTCTGGGAGGGAGAAACAGTTAAAATCTTGCAGCAGCTGCAATCATCTAGGCGTGGT ${\tt TCTCTTGTCTGACTTGGGCTGCACAGATCCTGGGCCAAGGGACAGAAGAAGAAGACAGCCTAGGAGCAGAGCCTCCCC}$ AGATGGCTGAGTTGGATCTAATGGCTCCAGGGCCACTGCCCAGGGCCACTGCTCAGCCCCAGCCCCTCTCAGCC AGCTTGGCAGGGAGACGGAGAACAGGACAGCGACTCTGCAGAGCAGGGGGATCCTGCTGGTGAGGGGAAAGAGG TCCTGTGTGACTTCTGCCTTGATGACACCAGAAGAGTGAAGGCAGTGAAGTCCTGTCTAACCTGCATGGTGAATT ACTGTGAAGAGCACTTGCAGCCGCATCAGGTGAACATCAAACTGCAAAGCCACCTGCTGACCGAGCCAGTGAAGG ACCACAACTGGCGATACTGCCCTGCCCACCACAGCCCACTGTCTGCTTTCTGCTGCCCTGATCAGCAGTGCATCT GCCAGGACTGTTGCCAGGAGCACAGTGGCCACACCATAGTCTCCCTGGATGCAGCCCGCAGGGACAAGGAGGCTG ACCAAAAGTCTGTTCTGGTGTCGGTGTCAGAGGTCAAAGCGGTGGCTGAAATGCAGTTTGGGGAACTCCTTGCTG CTGTGAGGAAGGCCCAGGCCAATGTGATGCTCTTCTTAGAGGAGAAGGAGCAAGCTGCGCTGAGCCAACG TCAGCAACACTGTCCAGTTCTTGGAGGAGTACTGCAAGTTTAAGAACACTGAAGACATCACCTTCCCTAGTGTTT ACGTAGGGCTGAAGGATAAACTCTCGGGCATCCGCAAAGTTATCACGGAATCCACTGTACACTTAATCCAGTTGC TGGAGAACTATAAGAAAAAGCTCCAGGAGTTTTCCAAGGAAGAGGAGTATGACATCAGAACTCAAGTGTCTGCCG TTGTTCAGCGCAAATATTGGACTTCCAAACCTGAGCCCAGCACCAGGGAACAGTTCCTCCAATATGCGTATGACA TCACGTTTGACCCGGACACAGCACACAAGTATCTCCGGCTGCAGGAGAGAACCGCAAGGTCACCAACACCACGC CCTGGGAGCATCCCTACCCGGACCTCCCCAGCAGGTTCCTGCACTGGCGGCAGGTGCTGTCCCAGCAGAGTCTGT ACCGGAAAGGGGAGGAGCGCAACAGTTGCATTTCCGGAAACAACTTCTCCTGGAGCCTCCAATGGAACGGGAAGG AGTTCACGGCCTGGTACAGTGACATGGAGACCCCACTCAAAGCTGGCCCTTTCCGGAGGCTCGGGGTCTATATCG ACTTCCCGGGAGGGATCCTTTCCTTCTATGGCGTAGAGTATGATACCATGACTCTGGTTCACAAGTTTGCCTGCA AATTTTCAGAACCAGTCTATGCTGCCTTCTGGCTTTCCAAGAAGGAAAACGCCATCCGGATTGTAGATCTGGGAG AGGAACCCGAGAAGCCAGCACCGTCCTTGGGGGTGACTGCTCCCTAGACTCCAGGAGCCATATCCCAGACCTTTG CCAGCTACAGTGATGGGATTTGCATTTTAGGGTGATTTGTGGGCAGAAATAACTGCTGATGGTAGCTGGCTTTTG AAATCCTATGGGGTCTCTGAATGAAAACATTCTCCAGCTGCTCTCTTTTGCTCCATATGGTGCTGTTCTCTATGT GTTTGCAGTAATTCTTTTTTTTTTTTTTTGAGACGGAGTCTCGCACTGTTGCCCAGGCTGGAGAGCAGTGGCGCGAA TCTTGGCTCACTGCAAGCTCCGCCTCCCGAGTTCAAGCAATTCTCCTGCCTCAGCCTCCCGAGTAGCTGGGATTA CAGGTGCCTGCCACCACACCCAGCTAATGTTTTGTATTTTTAGTAGAGATGGGGTTTCACCATGTTGGCCAGGCA GATCTCAAACTCCTGACCTCGTGATGCACCCCACCTCGGCCTCCCAAAGTGCTGGGATTACATGCGTGAGCCACTG CGCCCTGCCTGTTTGTAGTAATTTTTAGGCACCAAATCTCCCTCATCTTCTAGTGCCATTCTCCTCTCTGTTCAG GTAAATGTCACACTGTGCCCAGAATGGATGACCAGGAACCTTAAAGAGTGGCTGAAAAGATTGCAGAGTTATCAT AATAAATTGCTAACTTGCGT

MAELDLMAPGPLPRATAQPPAPLSPDSGSPSPDSGSASPVEEEDVGSSEKLGRETEEQDSDSAEQGDPAGEGKEV LCDFCLDDTRRVKAVKSCLTCMVNYCEEHLQPHQVNIKLQSHLLTEPVKDHNWRYCPAHHSPLSAFCCPDQQCIC QDCCQEHSGHTIVSLDAARRDKEAELQCTQLDLERKLKLNENAISRLQANQKSVLVSVSEVKAVAEMQFGELLAA VRKAQANVMLFLEEKEQAALSQANGIKAHLEYRSAEMEKSKQELERMAAISNTVQFLEEYCKFKNTEDITFPSVY VGLKDKLSGIRKVITESTVHLIQLLENYKKKLQEFSKEEEYDIRTQVSAVVQRKYWTSKPEPSTREQFLQYAYDI TFDPDTAHKYLRLQEENRKVTNTTPWEHPYPDLPSRFLHWRQVLSQQSLYLHRYYFEVEIFGAGTYVGLTCKGID RKGEERNSCISGNNFSWSLQWNGKEFTAWYSDMETPLKAGPFRRLGVYIDFPGGILSFYGVEYDTMTLVHKFACK FSEPVYAAFWLSKKENAIRIVDLGEEPEKPAPSLGVTAP

WO 2004/030615 PCT/US2003/028547

5127/6881 FIGURE 4729

 ${\tt MQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRLRGGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRLRGGMQIFVKTLTGKTITLEVEPSDTIENVKAKIQDKEGIPPDQQRLIFAGKQLEDGRTLSDYNIQKESTLHLVLRLRGGC$

WO 2004/030615 PCT/US2003/028547

5129/6881 FIGURE 4731

MFPGSLSRGRRAAVEMAWLPGSCARVAFAAGAAARYWTAWQGSAGPNPAAVAEAHGSLFCGRATSARAWSLRRPG PGSPAHSGGVQTRENWIAYPLQSAEDGVATRLQIREESASCLAAEYWSQEPAMRF WO 2004/030615 PCT/US2003/028547

5130/6881 FIGURE 4732

 ${\tt TCCAGCCCTTCTCCTGTGTGCCTGCCTCCTGCCGCCGCCACC} \underline{{\tt ATG}} {\tt ACCACCTCCATCCGCCAGTTCACCTCCTCC}$ AGCTCCATCAAGGGCTCCTCTGGCCTGGGGGGGCGCTCGTCCCGCACCTCCTGCCAGCTGTCTGGCGGCCTGGGT GCCGGCTCCTGCAGGCCGGGATCTGCTGGTGGCCTGGGCAGCGCCCTCGGGGGTAGCAGCTACTCCAGCTGCTAC AGCTTTGGCTCTGGCGGTGGCTATGGCAGCAGCAGCTTTGAGGGCGTTGATGGGCTGCTGGTCGGAGGTGAGAAG AGGATAATCGAGGAGCTGCAGAACAAGATCCTCACAGCCACCGTGGACAATGCCAACATCCTGCTACATATTGAC AATGCCCATCTGGCTGCTGACTTCCGCACCAAGTTTGAGACAGAGCAGGCCCTGTGCCTGAGTGTGGAGGCC GACATCAATGGCCCGTGCAGGGTGCTGGATGAGCTGACCCTGGCCAGAGCCGACCTGGAGATGCACATTGAGAAC CTCAAGGAGGAGCTGGCCTACCTGAAGAAGAACCACGAGGAGGAGATGAACGCCCCGCGAGGCCAGGTGGGCGGT GAGATCAATGTGGAGATGGGCGCTGCCCCAGGTGTGGACCTGAGCCGCATCCTGAATGAGATGCGTGAGCAGTAT GAGAAGATGGCAGAGAAGAACCGCAAGGATGCCGAGGATTGGTTCTTCAGCAAGACAGAGGAGCTGAACCGCGAG GTGGCTACCAACAGTGAGCTGGTCCAGAGCGGCAAGAGCGAGATTTCGGAGCTCCGGTGCACCATGCAGGCCTTG GAGATCGAGCTGCAGCTCAGCATGAAAGCATCCCTGGAGGGCAACCTGGCGGAGACAGAGAACCGCTAC TGCATGCAGCTGTCCCAGATCCAGGGGCTGATCGGCAGTGTGGAGGAGCGGCTGGCCCAGCTTCTCTGCGAGATG GAGCAGCAGAACCAGGAGTACAAGATCCTCCTGGACATGAAGATGCGGCTGGAGCTGGAGATCACCACCTACCAC ATTGTGGAAGAGGTCCAGGATGGTAAGGTCATCTCCTCCCGCGAGCAGGTCCGCCAGACCACCCCGC<u>TGA</u>GCACTC AGCTTTCCTGGCCGGCCCCCAGGAGGCAGGGAGGCAGCGGTCCCATCTGCCCCGCGGTCTCCGGCCTCTCCACC CTCAGCCCCTGCTTCAGTCCCTTCCCCATGCTTCCCTGCGTGATGACAATAAAGCTCGTTGACTCAGCT

MTTSIRQFTSSSSIKGSSGLGGGSSRTSCQLSGGLGAGSCRPGSAGGLGSALGGSSYSSCYSFGSGGGYGSSSFE GVDGLLVGGEKATMQNLNDRLASYLDKVRALEEADTELEVKIRDWYQRQAPGPARDYSQYYRIIEELQNKILTAT VDNANILLHIDNAHLAAADFRTKFETEQALCLSVEADINGPCRVLDELTLARADLEMHIENLKEELAYLKKNHEE EMNAPRGQVGGEINVEMGAAPGVDLSRILNEMREQYEKMAEKNRKDAEDWFFSKTEELNREVATNSELVQSGKSE ISELRCTMQALEIELQSQLSMKASLEGNLAETENRYCMQLSQIQGLIGSVEERLAQLLCEMEQQNQEYKILLDMK MRLELEITTYHRLLEGEDAHLTQYKKEPVTTCQVPTIVEEVQDGKVISSREQVRQTTR

MAPSRNGMVLKPHFHKDWQRRVATWFNQPARKIRRRKGPASQGAPHRSAPRVGSHPAHRALPHGSVPHEGARRPR LQPGGAPGWPAFTRRWPGPSAFLWIQTHPLPQEALGPQEGRQFC

 $\tt GTAGAGTGCGCGACCCTTTTGGCGACCCCGACCTCTGGCTAACCTACCCCCGGAGCC{\color{red} \underline{ATG} GCCTCTGCTGGGGTGG}$ CAGCCGGGCGACAGGCGGAGGATGTATTGCCGCCAACGTCCGACCAGCCGCTGCCTGACACCAAGCCGCTGCCGC CGAGGGAGGAGAACTACTCCTTTTTACCTTTGGTTCACAACATCATCAAATGCATGGACAAGGACAGCCCAG AGGTCCACCAGGACCTGAACGCCCTCAAAAGCAAGTTCCAGGAGATGCGCAAGCTCATCAGCACCATGCCCGGCA TCCACCTGAGCCCGAACAGCAGCAGCAGCAGCTGCAGAGCCTCCGGGAGCAAGTCAGGACCAAGAATGAGCTTC $\tt TGCAAAAGTACAAGAGCCTCTGCATGTTCGAAATCCCCAAGGAG{\color{red}{\textbf{TAG}}} AGTGAGGCTGACTTCCTTAGAAAGAGGG$ GGAAGCCAATGGCCTGTCTCCCCACTACCATCCCCAAACGCTCCTTGGGGCGTGGTTCCTGTGGACCCCAGCTCA GCTCGTCAAGCTGCAGGGGCGCGCTCCTGTGCTGCCGCGCGCTTCGCCTGTGCGGGAGCCAGCGCAGAGCTT GGCTGCGCCGGGGGTTCCTCGTGTAGATCCATATGTCTAGATGCATAATAACTGGAGTGCCTGCTGGTAGATACTC AGAATGCTCCTGGAGGCTGCAGAGGGGGTGGAGGACTCTCCCCTGCCTCTGGGGAGGGGGCCATCTGCTGCGCCC CCACCCCATAGGATCAGTGTACCAGGTACACATTGTTCCTGTTAACAGCAGCTTCTTGAAACATTTGCATAG AATTCACTGGACGAATTAAGCCTGCACTCATATGGCATAGAATTGTGAGAGAATGTTTTGAAAGGCCAGAGGGTG GCCTTTTTCCCCAAACAGTTTGGTTCCTTTTATGTTTGAGCCAGTGAAGGGAACTACGCTTTGGGGGCCTTCAGCC TAGAGCCCTGCCAGGCAGCCCCTGGCTCCAGGTTCCCTGCCTCCTAGCGCTCTCCTCGCCTTCAGCTCTTGCTCC CTTCCTCGTTCATCACCCTCAGTCAGTGCCCAAGAGTGGCCAAACCGCTTCACATCTGCAGTGCTTCCCCAGGGT TGACAAGGGGCCGTCCTTTCCACACAGGCCAGAAGAGGTCTTCAGGCGAACCGACCTTCCCCCTTCTGGCATTTC AGATTCCCCTTGCTCTGGTTAAAAGGTCTTTCCCTCGTGGCCTTTGCACTTGCGGCAGCAACGTGTACTACACTG CAGAAGGGTTCAGTATGCACCTTGTGTTGAGAGAGAGGCAACCCTGGGGGCCAGTTCAGGTGGTCCCCAACCATA GGCTAGGTCTGAAAGTTACACAGCCAAGTTTGAGCTCTTAAAAGTTGATGAACAGCCTCATTTCCCCAGCTTCCC TGATTTCTTCCAGATGGGACGTTTTATTTGTGTGCTCTCCCTTGACTGTCAGATTGAAGTAAGAGCAGTTCTCTC CGTTGCCTCTCGAGGAGGAGGTGCGAAGTCCTGGAGTATTGTTTGGGTCTCGGAATGGGCGCATAACCTGCGCTG ACCAGTTTAGGGGCTTAGCAGATGCCTGCCAGCTGACCTCGTTGGCAGGAGGGTTGGGTGGAGATGTTTTTAGCA GGAGGAGATCAAATTTCAGTGGCTTTGGACAGAAAAGAAGGCTCTGGATTTAAGCGGGTGGTCACCTGTGAGACC TAAGGCTCTGACAGATACCACGAAACATGAAGCACGTGGAACTACAAGACCCCCGGGGTCTTTCTGAGTGCAAGG ATTTTTCAAACACATAATTAAAAGGACTTATGCTCTGCTGTCTCAGG

MASAGVAAGRQAEDVLPPTSDQPLPDTKPLPPPQPPPVPAPQPQQSPAPRPQSPARAREEENYSFLPLVHNIIKC MDKDSPEVHQDLNALKSKFQEMRKLISTMPGIHLSPEQQQQQLQSLREQVRTKNELLQKYKSLCMFEIPKE

MASAGVAAGRQAEDVLPPTSDQPLPDTKPLPPPQPPPVPAPQPQQSPAPRPQSPARAREEENYSFLPLVHNIIKW

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5139/6881 FIGURE 4741

GCCCTGCCAGCCCCAGACAAGGGCACAGAAACAGCCAGGCCACACCAACTACAGCAGCTATTCCAAGCGGAAGCG CCTCACTCGGGGCCGGGCCAAGAACACCACCTCTTCACCCTGTAAGGGGCGTGCCAAGCGACGACGACAGCAGCA GGTGCTGCCCTGGATCCCGCAGAGCCTGAAATCCGCCTCAAGTACATTTCCTCTTGCAAGCGGCTGAGGTCAGA CAGCCGGACCCCGCCTTCTCACCCTTCGTGCGGGTGGAGAAGCGAGACGCGTTCACCACCATATGCACTGTTGT GTTCTCCTTGGATGCAGCCGGGGCCTCCCTGGCCACACTCCCTGGAGGCTCCATCCTGCAGCCGCGGCCCTCCTT GCCCCTCTCCTCCACGATGCACTTGGGGCCTGTGGTTTCCAAGGCCCTGAGTACCTCTTGCCTTGTTTGCTGCCT CTGCCAAAACCCGGCCAACTTCAAGGACCTTGGGGACCTCTGTGGGCCCTACTACCCTGAACACTGCCTCCCCAA AAAGAAGCCAAAACTCAAGGAGAAGGTGCGGCCAGAAGGCACCTGTGAGGAGGCCTCGCTGCCGCTTGAGAGAAC ACTCAAAGGTCCCGAGTGTGCAGCTGCCGCCACTGCCGGGAAGCCCCCCAGGCCTGACGGCCCAGCTGACCCGGC CAAGCAGGGCCCACTGCGCACCAGTGCCCGGGGCCTGTCCCGGAGGCTGCAGAGCTGCTACTGCTGTGATGGCCG GGAGGATGGGGGCGAGGAGGCAGCCCCAGCCGACAAGGGTCGCAAACATGAGTGCAGCAAGGAGGCTCCGGCAGA GCCCGGCGGGAGGCCCAGGAGCACTGGGTGCATGAGGCCTGTGCCGTGTGGACCGGCGCGTCTACCTGGTGGC CGGGAAGCTCTTTGGGCTGCAGGAGGCCATGAAGGTGGCCGTGGACATGATGTTTCCAGCTGCCAAGAAGCCGG GGCCACCATTGGGTGCTGCCACAAAGGATGCCTCCACACCTACCACTACCGTGTGCCAGCGATGCAGGTTGCAT ATTCATCGAAGAGAACTTTTCTTTGAAATGTCCCAAACATAAGAGGCTGCCGTAGTAATCCACCCCAACGGCCGG AGGAGCCGCCGGAGCCCGCCTGCCCGCCGCCGAAGGAGAGGAGCCGCCTGCGCAGCCCCCGGGCCTTTGAG CTGCTCCCAGCGCTGGTCCAGAGCCGATCCTTGATCCGGGTCCCGGATCGTGGATCCGGCCGCCTAGGGCTCAGA CTTGCGGCCCCGGGTTGGGAGGAAAACCCGTTCCGGAGCCGCTGCTCCCGGAACCGGACGGCACAGGGCGTTCT TGCCCACCCCAGGGCCAGGCTTGCGGAGGGGGAGCCCGCGGAGCCGCCAGACTCCCCGGGGCGCTCAGCCTCCG GCGAGGGTGGGAGACGGCTTTGTCCTGGGGACACTTTCCCTCTGGAATCTCAAGACGACGTGGCACACATTCCAC GTGGGTGCTGCCGCCACCCCAGTCGGTCGTGGCGTGCAGCTGGGAGCCCTGGGCTTGGGGGTGGGGGTCGAAACA GTACTGGAAGAGGCGGAGGCCGCTCCTAGCTCCGTGGACTAGGCGGGGGAGAAAGGAAAGCCTTTCTGAGAGCGG GCTAGGCCGCCACTGGAGAGGCCGGAGCCTTTGGAACAAACCGTGCGGAACGCGTCCAGGGGCCTTCCCGCCCAG CCTTTGCCAGATCTCTCGTGCGGTTCGGGCAAAGCCGGGGTAGACCTGGGCTATGCTCAGTTAGGGGTTGCGGGA ${\tt TCCCCGAGTGTGGGCGGGACTCGGGACACCCTTTGGCCTCTGTTTGTCCCCTTTCCAGTCCTCCACCCCACCCCTG}$ GAGCCCAGCCTGGGAGCGCAAAACCCAAGAAGCGCCCAGAACGCACCTCCGGCTCCGGCGGACGCGCGACCGTTG TGCACCACGGGACCGCCCCTACTCTGCACGGGAGCAGGGACAGCGCTAGATTTCGTGTACAAAACCTGTG TACCCCTCTATATATATGTTACATAGAATGTATATATGTTGGGAACATGCTCGCTTCTCCCGTGTGTCGCCGCCG TGCGTCGTGCGCCCGCAACAGAGCCCCAACCGGGCCTTTGCCGGGTAAGGGGCTACCGCGACGCCACTTGTCCAC TTCGATAGGCCTGACGCAGCCCAGCCCAGGCCCGCCCTAGCAACTTCCTGTACATATGACTGTAAAATGGTAA GACTGTAAATGTTAAGACGACTAGTGTTCTTATTAGTATATTGCTTCACACTGAAGATTGTGTGTATCGAGCTGT TAAAGATACAACGATTGTTTTGGAAAA

5140/6881 FIGURE 4742A

TAACGAGGAACTTTTCGCCGGCGCCGGCCCCCTCTGAGGCCAGGGCAGGACACGCAGCGGCGGCGGCGG AGGAGGCGGCTGCGCCATGGACGAGCCACCCTTCAGCGAGGCGGCTTTGGAGCAGGCGCTGGGCGAGCCGTGCGA TCTGGACGCGCGCTGCTGACCGACATCGAAGACATGCTTCAGCTTATCAACAACCAAGACAGTGACTTCCCTGG CCTATTTGACCCACCCTATGCTGGGAGTGGGGCAGGGGGCACAGACCCTGCCAGCCCCGATACCAGCTCCCCAGG TGGTATCAAGGAAGAGTCAGTGCCACTGAGCATCCTGCAGACCCCCACCCCACAGCCCCTGCCAGGGGCCCTCCT GCCACAGAGCTTCCCAGCCCCAGCCCCACCGCAGTTCAGCTCCACCCCTGTGTTAGGCTACCCCAGCCCTCCGGG AGGCTTCTCTACAGGAAGCCCTCCCGGGAACACCCAGCAGCCGCTGCCTGGCCTGCCACTGGCTTCCCCGCCAGG GGTCCCGCCCGTCTCCTTGCACACCCAGGTCCAGAGTGTGGTCCCCCAGCAGCTACTGACAGTCACAGCTGCCCC CACGGCAGCCCCTGTAACGACCACTGTGACCTCGCAGATCCAGCAGGTCCCGGTCCTGCTGCAGCCCCACTTCAT GGTCTCTGGCACCACTGTGCAGACAGGGCCTTTGCCGACCCTGGTGAGTGGCGGAACCATCTTGGCAACAGTCCC ACTGGTCGTAGATGCGGAGAAGCTGCCTATCAACCGGCTCGCAGCTGGCAGCAAGGCCCCGGCCTCTGCCCAGAG CCGTGGAGAAGCGCACAACGCCATTGAGAAGCGCTACCGCTCCTCCATCAATGACAAAATCATTGA GCTCAAGGATCTGGTGGTGGGCACTGAGGCAAAGCTGAATAAATCTGCTGTCTTGCGCAAGGCCATCGACTACAT TCGCTTTCTGCAACACAGCAACCAGAAACTCAAGCAGGAGAACCTAAGTCTGCGCACTGCTGTCCACAAAAGCAA ATCTCTGAAGGATCTGGTGTCGGCCTGTGGCAGTGGAGGGGAACACAGACGTGCTCATGGAGGGCGTGAAGACTGA GGTGGAGGACACTGACCCCACCCCCCTCGGATGCTGGCTCACCTTTCCAGAGCAGCCCCTTGTCCCTTGGCAG ${\tt CAGGGGCAGTGGCAGTGGCAGTGACTCGGAGCCTGACAGCCCAGTCTTTGAGGACAGCCAAGGCAAA}$ GCCAGAGCAGCCGCCTCTCTGCACAGCCGGGGCATGCTGGACCGCTCCGCCTGGCCCTGTGCACGCTCGTCTT CCTCTGCCTGTCCTGCAACCCCTTGGCCTCCTTGCTGGGGGCCCGGGGGCCTTCCCAGCCCCTCAGATACCACCAG GCCCCCAGTGGTCTGGCTGCTCAATGGGCTGTTGGTGCTCCTTTGTGTGTCTTCTTTTGTCTACGGTGAGCC AGTCACACGGCCCCACTCAGGCCCCGCCGTGTACTTCTGGAGGCATCGCAAGCAGGCTGACCTGGACCTGGCCCG GGCAGGCCGGGCAGGGGCCTGCAGCAGGACTGTGCTCTGCGAGTGGATGCTAGCGCCAGCGCCCGAGACGCAGC CCTGGTCTACCATAAGCTGCACCAGCTGCACACCATGGGGAAGCACACAGGCGGGCACCTCACTGCCACCAACCT GGCGCTGAGTGCCCTGAACCTGGCAGAGTGTGCAGGGGATGCCGTGTCTGTGGCGACGCTGGCCGAGATCTATGT GGCGGCTGCATTGAGAGTGAAGACCAGTCTCCCACGGGCCTTGCATTTTCTGACACGCTTCTTCCTGAGCAGTGC CCGCCAGGCCTGCCTGCACAGAGTGGCTCAGTGCCTCCTGCCATGCAGTGGCTCTGCCACCCCGTGGGCCACCG TTTCTTCGTGGATGGGGACTGGTCCGTGCTCAGTACCCCATGGGAGGCCTGTACAGCTTGGCCGGGAACCCAGT CAACCCCAGCCCTGGGTCAGCTGATGGGGACAAGGAATTCTCGGATGCCCTCGGGTACCTGCAGCTGCTGAACAG CTGTTCTGATGCTGCGGGGGCTCCTGCCTACAGCTTCTCCATCAGTTCCAGCATGGCCACCACCACCGGCGTAGA CCCGGTGGCCAAGTGGTGGGCCTCTCTGACAGCTGTGGTGATCCACTGGCTGCGGGGGATGAGGAGGCGGCTGA GCGGCTGTGCCCGCTGGTGGAGCACCTGCCCCGGGTGCTGCAGGAGTCTGAGAGACCCCTGCCCAGGGCAGCTCT GCTGTTCCTGTGTGACCTGCTTCTTGTGGTGCGCACCAGCCTGTGGCGGCAGCAGCAGCCCCGGCCCCGGCCCC AGCAGCCCAGGGCCCAGCAGCCCCCAGGCTTCCGCCCTTGAGCTGCGTTCCAACGGGACCTGAGCAG CCTGAGGCGGCTGGCACAGAGCTTCCGGCCCGCCATGCGGAGGGTGTTCCTACATGAGGCCACGGCCCGGCTGAT GGCGGGGCCCACCCCACACGGACACCACCTCCTCGACCGCAGTCTGAGGCGGCGGGCAGGCCCCGGTGGCAA AGGAGGCGGGGGGGGGGCCGGCCCACGCGGGGGGGCCCCTGCTGCTGCTGCTCCTG GAAGCTTGGCGATCGCCGGCTGCTGCACGACTGTCAGCAGATGCTCATGCGCCTGGGCGGTGGGACCACTGTCAC

5141/6881 FIGURE 4742B

 $ext{MDEPPFSEAALEQALGEPCDLDAALLTDIEDMLQLINNQDSDFPGLFDPPYAGSGAGGTDPASPDTSSPGSLSPP}$ PATLSSSLEAFLSGPQAAPSPLSPPQPAPTPLKMYPSMPAFSPGPGIKEESVPLSILQTPTPQPLPGALLPQSFP ${\tt APAPPQFSSTPVLGYPSPPGGFSTGSPPGNTQQPLPGLPLASPPGVPPVSLHTQVQSVVPQQLLTVTAAPTAAPV}$ TTTVTSQIQQVPVLLQPHFIKADSLLLTAMKTDGATVKAAGLSPLVSGTTVQTGPLPTLVSGGTILATVPLVVDA EKLPINRLAAGSKAPASAQSRGEKRTAHNAIEKRYRSSINDKIIELKDLVVGTEAKLNKSAVLRKAIDYIRFLQH SNQKLKQENLSLRTAVHKSKSLKDLVSACGSGGNTDVLMEGVKTEVEDTLTPPPSDAGSPFQSSPLSLGSRGSGS GGSGSDSEPDSPVFEDSKAKPEQRPSLHSRGMLDRSRLALCTLVFLCLSCNPLASLLGARGLPSPSDTTSVYHSP GRNVLGTESRDGPGWAQWLLPPVVWLLNGLLVLVSLVLLFVYGEPVTRPHSGPAVYFWRHRKQADLDLARGDFAQ AAQQLWLALRALGRPLPTSHLDLACSLLWNLIRHLLQRLWVGRWLAGRAGGLQQDCALRVDASASARDAALVYHK LHQLHTMGKHTGGHLTATNLALSALNLAECAGDAVSVATLAEIYVAAALRVKTSLPRALHFLTRFFLSSARQACL AQSGSVPPAMQWLCHPVGHRFFVDGDWSVLSTPWESLYSLAGNPVDPLAQVTQLFREHLLERALNCVTQPNPSPG SADGDKEFSDALGYLQLLNSCSDAAGAPAYSFSISSSMATTTGVDPVAKWWASLTAVVIHWLRRDEEAAERLCPL VEHLPRVLQESERPLPRAALHSFKAARALLGCÁKAESGPASLTICEKASGYLODSLATTPASSSIDKAVOLFLCD LLLVVRTSLWRQQQPPAPAPAQGASSRPQASALELRGFQRDLSSLRRLAQSFRPAMRRVFLHEATARLMAGASP TRTHQLLDRSLRRRAGPGGKGGAVAELEPRPTRREHAEALLLASCYLPPGFLSAPGORVGMLAEAARTLEKLGDR RLLHDCQQMLMRLGGGTTVTSS

TTTCTCTGGAGGAGCTCCGCGTGGCGAGTCTGTGTCCTCCCTGTCCCCAGAGCAGÁGAACCCTCTCTGTGTC TGGACCGGGAGGAGCAGACGCTGGACAGGGTGTGTGTTCAGCAGTGGATTGTCAGACTTGGGGTCCCGGCTG CTCCCTTTTGGGTCTCCCCCGGGCCCGCTGATCTGACTGTAATTCCTTCTGCTGGAGCTAGGGTTCGGCCACCT TGAGGCAGGTAGCGCCCAAGGCTCCTGTACCAGGGCCAGGTTAGGCACCAACGCGTCCCTTATGTCTCTGCAGCC CACATTTTCAGAGAGTGGTATTGCTCCGATGTGAGTGTAGGCAGGTTACTCTCTGTGTCTCGTGTTCTTTACCTG TAATTTGAGGTTTGTTGTACCTACTTTTAAGTGGTGGTTGTGAGGATTAAATGGAATTTTGACATGCAACAGTTG GTACGTAAGAAGGAAACACCCAAGAATGAAAAGTAGCTTGTTGTAGGTCACCCAGCCAACTAGCACATAGGGGGAA ATTAGAATCCAGGCACTCCCAGCAGGGCACTTTCCACCACCCTGCACTTTTGTATTCATCAGGCACAATATCCTT ACTGTTGTCTGTAACTGTCTATGTTCCCAGTGTCTGACTCTGCAGGGCCCTGGTGGTATAAAGGTACTGAGACTT GCCTGTGTTTAGGGCTTCCTGAAGATTAAATGGCTGCTGAAGTTCTTGAGTTTAGCTTTAGCTCAAAAGATACTG CGTCAGACTCTGCGTTCTGAGTAGAGTCTCAGACAATGAAAAAAGAAATACAATGAAAAAGGGGGAAAACTTCAAT CCAGAATCTCTTGCCACAGTTTTTGGCAGAATGCTGGCAATTCCCAGGAAGATATGTGGAGAACGGAAAGGTTGC TACACCCAAATAGTGGCGCAAAGGCTATGATTATGGAGGATTGGACCTGCAAACTCCAGAACAGAGTTCTGCCCT CTGAGGACCCTGCCCTTTCCCAAAAGGGGTATCTTAAGAAGGAAAATATGGCTGCTCTTTGCCGGACAGCAGAGT GCTCCAGGCTAACCAAAAGTCTGTTCTGGTGTCGGTGTCAGAGGTCAAAGCAGTGGCTGAAATGCAGTTTGGGGA ACTCCTTGCTGCTGTGAGGAAGGCCCAGGCCAATGTGATGCTCTTCTTAGAGGAGAAGGAGCAAGCTGCGCTGAG CCAGGCCAACGGTATCAAGGCCCACCTGGAGTACAGGAGTGCCGAGATGGAGAAGAGTAAGCAGGAGCTGGAGAC GATGGCGGCCATCAGCAACACTGTCCAGTTCTTGGAGGAGTACTGCAAGTTTAAGAACACTGAAGACATCACCTT CCCTAGTGTTTACATAGGGCTGAAGGATAAACTCTCGGGCATCCGCAAAGTTATCACGGAATCCACTGTACACTT AATCCAGTTGCTGGAGAACTATAAGAAAAAGCTCCAGGAGTTTTCCAAGGAAGAGAGGAGTATGACATCAGAACTCA AGTGTCTGCCATTGTTCAGCGCAAATATTGGACTTCCAAACCTGAGCCCAGCACCAGGGAACAGTTCCTCCAATA TGTGCATGACATCACGTTCGACCCGGACACAGCACACAAGTATCTCCGGCTGCAGGAGGAGAACCGCAAGGTCAC CAACACCACGCCCTGGGAGCATCCCTACCCGGACCTCCCCAGCAGGTTCCTGCACTGGCGGCAGGTGCTGTCCCA CAAAGGCATCGACCAGAAAGGGGAGGAGCGCAGCAGTTGCATTTCCGGAAACAACTTCTCCTGGAGCCTCCAATG GAACGGGAAGGAGTTCACGGCCTGGTACAGTGACATGGAGACCCCACTCAAAGCTGGCCCTTTCTGGAGGCTCGG GGTCTATATTGACTTCCCAGGAGGGATCCTTTCCTTCTATGGCGTAGAGTATGATTCCATGACTCTGGTTCACAA GTTTGCCTGCAAGTTTTCAGAACCAGTCTATGCTGCCTTCTGGCTTTCCAAGAAGGAAAACGCCATCCGGATTGT AGATCTGGGAGAGGAACCCGAGAAGCCAGCACCGTCCTTGGTGGGGACTGCTCCCTAGACTCCAGGAGCCATATC CCAGACCTTTGCCAGCTACAGTGATGGGATTTGCATTTTAGGGTGATTTGGGGGCCAAAAATAACTGCTGATGGTA GCTGGCTTTTGAAATCCTATGGGGTCTCTGAATGAAAACATTCTCCAGCTGCTCTCTTTTGCTCCATATGGTGCT GTGCAGTGGCGTGATCTTGGCTCACTGCAAGCTCCGCCTCCCGAGTTCAAGCAATTCTCCTGCCTCAGCCTCCCG AGTAGCTGGGATTACAGGTGCCTGCCACCACCCAGCTAACGTTTTGTATTTTTAGTAGAGATGGGGTTTCACC ATGTTGGCCAGGCAGATCTCAAACTTCTGACCTCGTGATGCACTCACCTCGGCCTCCCAAAGTGCTGGGATTACA GGCGTGAGCCACTGCCTGCCTGTTTGTAGTAATTTTTAGGCACCAAATCTCCCTCATCTTCTAGTGCCATTC TCCTCTCTGTTCAGGTAAATGTCACACTGTGCCCAGAATGGATGACCAGGAACCTTCAAGAGTGGCTGAAAAGAT TGCAGAGTTATCATAATAAATTGCTAACTTGCGTATTTCCT

MQFGELLAAVRKAQANVMLFLEEKEQAALSQANGIKAHLEYRSAEMEKSKQELETMAAISNTVQFLEEYCKFKNT EDITFPSVYIGLKDKLSGIRKVITESTVHLIQLLENYKKKLQEFSKEEEYDIRTQVSAIVQRKYWTSKPEPSTRE QFLQYVHDITFDPDTAHKYLRLQEENRKVTNTTPWEHPYPDLPSRFLHWRQVLSQQSLYLHRYYFEVEIFGAGTY VGLTCKGIDQKGEERSSCISGNNFSWSLQWNGKEFTAWYSDMETPLKAGPFWRLGVYIDFPGGILSFYGVEYDSM TLVHKFACKFSEPVYAAFWLSKKENAIRIVDLGEEPEKPAPSLVGTAP

ACTGCCGGCCTGCGCGTACTCACTGCCGGCCTCCGCGGTACCCACTGCCGGCCTCCGCGCTACCCGGCCGCAGC ${\tt GCGCGAGTCAC} \underline{\textbf{ATG}} \\ \texttt{GAAGCTCCTGAGGAGCCCGCGCCAGTGCGCGGAGGCCCGGAGGCCACCCTTGAGGTCCGTG}$ TGGTTCAGCTGATGGTGTTCCTGATCAGCTTCATAAGCTCCGTGTTCTGTGGCCACCTGGGCAAGCTGGAGCTGG ATGCAGTCACGCTGGCAATCGCGGTTATCAATGTCACTGGTGTCTCAGTGGGATTCGGCTTATCTTCTGCCTGTG ACACCCTCATCTCCCAGACGTACGGGAGCCAGAACCTGAAGCACGTGGGCGTGATCCTGCAGCGGAGTGCGCTCG TGTTACAAGTTAAATATTTGCTCAACCAGGGAATTGTACTGCCCCAGATCGTAACTGGAGTTGCAGCCAACCTTG TCAATGCCCTCGCCAACTATCTGTTTCTCCATCAACTGCATCTTGGGGTGATAGGCTCTGCACTGGCAAACTTGA TTTCCCAGTACACCCTGGCTCTACTCCTCTTTCTCTACATCCTCGGGAAAAAACTGCATCAAGCTACATGGGGAG TGGAGTGGTGGGCCTATGAGGTCGGGAGCTTCCTCAGTGGCATCCTCGGCATGGTGGAGCTGGGCGCTCAGTCCA TCGTGTATGAACTGGCCATCATTGTGTACATGGTCCTTGCAGGCTTCAGTGTGGCCTGCCAGTGTCCGGGTAGGAA ACGCTCTGGGTGCTGGAGACATGGAGCAGGCACGGAAGTCCTCTACCGTTTCCCTGCTGATTACAGTGCTCTTTG TTAATCTGGTGGCTCAGGTGGTTCCAATTTATGCTGTTTCCCACCTCTTTGAAGCTCTTGCACGAGTGGTG GTGTTCTGAGGGGGAGTGGAAATCAGAAGGTTGGAGCCATTGTGAATACCATTGGGTACTATGTGGTTGGCCTCC CCATCGGGATCGCGCTGATGTTTGCAACCACACTTGGAGTGATGGGTCTGTGGTCAGGGATCATCATCTGTACAG TCTTTCAAGCTGTGTTTTCTAGGCTTTATTATTCAGCTAAATTGGAAAAAAGCCTGTCAGCAGGCTCAGGTAC ACGCCAATTTGAAAGTAAACAACGTGCCTCGGAGTGGGAATTCTGCTCTCCTCAGGATCCGCTTCACCCAGGGT GCCAAGAAGAACCTTTGCCGGAACATCCACAGGACGCCGCTAAATTGTCCAGGAAACAGCTGGTGCTGCGGCGAG GGCTTCTGCTCCTGGGGGTCTTCTTAATCTTGCTGGTGGGGATTTTAGTGAGATTCTATGTCAGAATTCAGTGAC GTGGTAGGAAAGAAGTCAGGTCGAGTGATGCTTTTGAGCTTACACACAATTCACAGGCCCACCAGTGACAATTT ACTGTGAGTTAATGTCATTCAGGTGTGCCCATGGATTTTGAGGGCTGGAAATGCAAAGACACATTTTTCTATAAA AAGAAAAAGCAACTAAGGTTAAAAGCTATATTGTGGCCCAAGACACTGTCTGAAAGATGACATGAGTAGTAATTC ACCACTATCTGAACCAAGCAAGGATCAATGTGCTGACTGCATTGGCCAATGGCTTTGATACTTCTGCTATTTTTT TAGACACAAACCCATAAACTAACTGCTTAAGAATTCATACTGCTTGAATTATGTAAAATATATTTTACAGTATAT GGAAGTCTTGCTCTGTCATGCAGGCTGGAGTGCGGTGGTGCGATCATAGCTCACTGCAGCCTCGAACTCTTGGGC TTCAAGCAATCCTCCTGTGTCAGCCACCAGAGTAGCTGAGACTACAGGGGTATGCCACCATGCCCAGCTGGCATT TGTTAATCTTCATTTGAGGTCTAGATCTAGGCACTGTGGACACTGAAAAACAGTTGGGAAATCTTTCGAGCTGTG GAAATCCAAACAAGACTGATAATTCCTGGTAGGGGTGTGTGCGTGACGTACTGCAGCCTCAACCTCCTGGGCTC AAGTGATCCTCCCACCTCAGCCTCCTGAGTAGCTGAGACCACAGGCGTGTGCCACCACGCCTAGCTAATTTTTTA TACCAGGGTCTACCCTTTGTTTCCCAGGCTGGTCTTGAATTCCTGGGATCAAGCAATCCTTCCACCTTGCCCTCC CAAAGTGTTGGGATTATAGGCATGAGCCACCACGACTGGCCAGAGGACAAAATTTTAATAAAGGTCTTAGCTTAA GCAGTAATCCTACTTCATTAAGCCTTCCTGGGGTGCGGTACACACCGTTAATTCAGCAACCCTCAGTACATACTA AGTATGCTCAGTGCTGTGAAAGTGGATTACACCAAATTAAGTCATTCTTATCACACCCAATCAAAAGTCAAGAAG CCAGGGATAAAAGCACCTCAGGCACATAACATTAATCTAGTAATGTAATTCTCTGCACATCCAGCTGGTGAAACT GCGTGCTGTAAGCTGGGACCAGCTTTGTCCATAACTGCTGAGGAACTTGCTGAAGCTCTAGGAATAATTTTGCC TGCCCGGTTGCTCACCAGTTGTAGCTTGCCAGCTCCCAACACCCTTCCTGGTGCCAATAAACTTTCTCAAAGAGC AATACTGACATTTCTTTTGATAAAACCTCCAGCCTTCTCTGTGTTGTTCCGACATACCGAGGACCAACTGGTCTA CATGGATGCCCTGAACATGCAATTCTTTCTTCCAAAATAAAACATTAAATAGAG

MEAPEEPAPVRGGPEATLEVRGSRCLRLSAFREELRALLVLAGPAFLVQLMVFLISFISSVFCGHLGKLELDAVT LAIAVINVTGVSVGFGLSSACDTLISQTYGSQNLKHVGVILQRSALVLLLCCFPCWALFLNTQHILLLFRQDPDV SRLTQTYVTIFIPALPATFLYMLQVKYLLNQGIVLPQIVTGVAANLVNALANYLFLHQLHLGVIGSALANLISQY TLALLLFLYILGKKLHQATWGGWSLECLQDWASFLRLAIPSMLMLCMEWWAYEVGSFLSGILGMVELGAQSIVYE LAIIVYMVLAGFSVAASVRVGNALGAGDMEQARKSSTVSLLITVLFAVAFSVLLLSCKDHVGYIFTTDRDIINLV AQVVPIYAVSHLFEALACTSGGVLRGSGNQKVGAIVNTIGYYVVGLPIGIALMFATTLGVMGLWSGIIICTVFQA VCFLGFIIQLNWKKACQQAQVHANLKVNNVPRSGNSALPQDPLHPGCPENLEGILTNDVGKTGEPQSDQQMRQEE PLPEHPQDGAKLSRKQLVLRRGLLLLGVFLILLVGILVRFYVRIQ

CTCTGAGCAGAACTGACAGCATGAAGGCACTCCTGGCCCTGCCGCTGCTGCTGCTTCTCTCCACGCCCCCGTGTG CCCCCAGGTCTCCGGGATCCGAGGAGATGCTCTGGAGAGGTTTTGCCTTCAGCAACCCCTGGACTGTGACGACA TCTATGCCCAGGGCTACCAGTCAGACGGCGTGTACCTCATCTACCCCTCGGGCCCCAGTGTGCCCGTCT TCTGTGACATGACCACCGAGGGCGGGAAGTGGACGGTTTTCCAGAAGAGATTCAATGGCTCAGTAAGTTTCTTCC TCCTGACACTGAAGCAGAAGTATGAGCTGCGAGTGGACTTGGAGGACTTTGAGAACAACACGGCCTATGCCAAGT ACGCTGACTTCTCCCATCTCCCCGAACGCGGTCAGCGCAGAGGAGGATGGCTACACCCTCTTTGTGGCAGGCTTTG TCTTTGTGCAGAACTGCGCAGCTCTCCTCAGGAGCCTTCTGGTTCCGCAGCTGCCACCTTTGCCAACCTCAATG GCTTCTACCTAGGTGGCTCCCACCTCTCTTATGCCAATGGCATCAACTGGGCCCAGTGGAAGGGCTTCTACTACT $\tt CCCTCAAACGCACTGAGATGAAAATCCGCCGGGCCTGAAGGGCTGGCCCCCTCAGGCACCTTTCCTCCCCTGGAC$ ACAAGGGGGCCTTGTGGCTCTCAGCCATGCCACATCCCTGTCACACCCAGGGCATCCATTCCTAAGCCAGACC CGGCTCCCCTACACCTGAAGTTACACTGCCAGCAGTTCCCCAGGCCTCTTCCGAGAGGCACATGGTTCTAGCCTG GACCTGGCTGGGCTCCATGAGAATGAGTTGCCTCCACCCTGTCCCAACAGCTGACAGCCAGGAGCCACTCTCCCA GCTGCAGGCCTTTGTGGTCCATCTTGTCCTGCTTCCTCACTGTGGACCCCTGTCTGGGCCACCCTAGTGTGCTAA GCTGAGCAGTGCAGTGTGAACAGGGCCCATGGTGTATTCTAGGCCACAGCCCAGCACTCCTCTGGGCTGCTCTCA AACCATGTCCCATCTTCAGCATCCCTCCCACCAACTTACTCCCCTGTGGTGAGTACCGTGGAACCCCAGCCCACC TCACTATCATACTCAGCTTCCCCTGATGGCCCATCCCAGCCCCTGAAGCTCTATGCCAAGAACACAGCTACCGCA CACCACCTGAAACAGCCACGCCAAGGTAGGCATGCATATGAGGTCTTCCCCATACCCTCTGGGTGTTGAGAGG TTTAGCCACATGAGGGAGCAGAGGACAATCTCTGCAGGGCTGGGAGTGGGTAGGGACTGAAGGTCTCAATAAACC TTCAGAACCTGAATGAACTGGCTTCATACACACAAACATATTTGTTTATCCCCCAAATGTAGGCACCTGGCTCCT $\verb|CCTTGCTCCCTGATGGTGTCCTACCCCGAACTCCAAAAATTACACCTGGAGTCAGGTGCAGAAGGGAACCT|\\$ TGTATTTCACAGGCCTCATTTTGATGGCAAAAAGACAGTGTAATAATA

CGGAGACCCCCGCGCTGGGGACGGGGGGGCCGGGGGGCCTCGGGACCTTGAAAGCCTTGAGGAGGCGCGGGGACA CCATGGCCGAGCCTCTGAAGGAGGAAGACGGCGAGGACGCTCTGCGGAGCCCCCGGGGCCCGTGAAGGCCGAAC CCGCCCACACCGCTGCCTCTGTAGCGGCCAAGAACCTGGCCCTGCTTAAAGCCCGCTCCTTCGATGTGACCTTTG GCCTCACCGGCCAGCAGGTGGCCATCAAAAAGATCCCTAATGCTTTCGATGTGGTGACCAATGCCAAGCGGACCC TCAGGGAGCTGAAGATCCTCAAGCACTTTAAACACGACAACATCATCGCCATCAAGGACATCCTGAGGCCCACCG TGCCCTATGGCGAATTCAAATCTGTCTACGTGGTCCTGGACCTGATGGAAAGCGACCTGCACCAGATCATCCACT CCTCACAGCCCCTCACACTGGAACACGTGCGCTACTTCCTGTACCAACTGCTGCGGGGCCTGAAGTACATGCACT CGGCTCAGGTCATCCACCGTGACCTGAAGCCCTCCAACCTATTGGTGAATGAGAACTGTGAGCTCAAGATTGGTG ACTTTGGTATGGCTCGTGGCCTGTGCACCTCGCCCGCTGAACATCAGTACTTCATGACTGAGTATGTGGCCACGC GCTGGTACCGTGCGCCCGAGCTCATGCTCTCTTTGCATGAGTATACACAGGCTATTGACCTCTGGTCTGTGGGCT GCATCTTTGGTGAGATGCTGGCCCGGCGCCAGCTCTTCCCAGGCAAAAACTATGTACACCAGCTACAGCTCATCA TGATGGTGCTGGGTACCCCATCACCAGCCGTGATTCAGGCTGTGGGGGGCTGAGAGGGTGCGGGCCTATATCCAGA GCTTGCCACCACGCCAGCCTGTGCCCTGGGAGACAGTGTACCCAGGTGCCGACCGCCAGGCCCTATCACTGCTGG GTCGCATGCTGCGTTTTGAGCCCAGCGCTCGCATCTCAGCAGCTGCTGCCCTTCGCCACCCTTTCCTGGCCAAGT ACCATGATCCTGATGATGAGCCTGACTGTGCCCCGCCCTTTGACTTTGCCTTTGACCGCGAAGCCCTCACTCGGG AGCGCATTAAGGAGGCCATTGTGGCTGAAATTGAGGACTTCCATGCAAGGCGTGAGGGCATCCGCCAACAGATCC GCTTCCAGCCTTCTCTACAGCCTGTGGCTAGTGAGCCTGGCTGTCCAGATGTTGAAATGCCCAGTCCCTGGGCTC CCAGTGGGGACTGTGCCATGGAGTCTCCACCACCAGCCCGCCACCATGCCCCGGCCCTGCACCTGACACCATTG CTAAGGCTGCCCTTAAAGCTGCCCTGCTCAAGTCTTTGAGGAGCCGGCTCAGAGATGGCCCCAGCGCACCCCTGG GCCCCTCCACTGACCCCTTGGCTGGACTAGTGCTCAGTGACAATGACAGAAGCCTGTTGGAACGCTGGACTCGAA TGGCCCGGCCCGCAGCCCCAGCCTCACCTCTGTGCCGGCCCTGCCCCAGCGCCCAACGCCAACCCCAACCCCAG CTGGCCCTGTACCCCAGCCTGCCCCACCCCCTGGCCCTGCACCCCACTGGCCCTCCTGGGCCCATCC CTGTCCCCGCGCCCCCGGATTGCCACCTCCACCAGCCTCCTGGCTGCCCAGTCACTTGTGCCACCCCTGGGC TGCCTGGCTCCAGCACCCCAGGAGTTTTGCCTTACTTCCCACCTGGCCTGCCGCCCCCAGACGCCGGGGGAGCCC CTCAGTCTTCCATGTCAGAGTCACCTGATGTCAACCTTGTGACCCAGCAGCTATCTAAGTCACAGGTGGAGGACC CCCTGCCCCCTGTGTTCTCAGGCACACCAAAGGGCAGTGGGGGCTGCCTACGGTGTTGGCTTTGACCTGGAGGAAT TCTTAAACCAGTCTTTCGACATGGGCGTGGCTGATGGGCCACAGGATGGCCAGGCAGATTCAGCCTCTCTCAG CCTCCCTGCTTGCTGACTGGCTCGAAGGCCATGGCATGAACCCTGCCGATATTGAGTCCCTGCAGCGTGAGATCC AGATGGACTCCCCAATGCTGCCTGACCTGCCTGACCTCCAGGACCCCTGAGGCCCCCAGCCTGTGCCTTGCT GCCACAGTAGACCTAGTTCCAGGATCCATGGGAGCATTCTCAAAGGCTTTAGCCCTGGACCCAGCAGGTGAGGCT $\tt CGGCTTGGATTATTCTGCAGGTTCATCTCAGACCCACCTTTCAGCCTTAAGCAGCCACCTGAGCCACCACCGAGC$ TTATTACACTGTCTTTTTGCCATCAAAATGAGGCCTGTGAAATACAAGGTT

GAGGAGGTGGTGTACGTCCTAGAGGAGATCGAGTACATGATCCAGAAGCTCCCTGAGTGGGCCGCGGATGAGCCC GTGGAGAAGACGCCCCAGACTCAGCAGGACGAGCTCTACATCCACTCGGAGCCACTGGGCGTGGTCCTCGTCATT GGCACCTGGAACTACCCCTTCAACCTCACCATCCAGCCCATGGTGGGCGCCATCGCTGCAGGGAACTCAGTGGTC CTCAAGCCCTCGGAGCTGAGTGAGAACATGGCGAGCCTGCTGGCTACCATCATCCCCCAGTACCTGGACAAGGAT CTGTACCCAGTAATCAATGGGGGTGTCCCTGAGACCACGGAGCTGCTCAAGGAGAGGTTCGACCATATCCTGTAC ACGGGCAGCACGGGGGGGGAAGATCATCATGACGGCTGCCCAAGCACCTGACCCCTGTCACGCTGGAGCTG GGAGGGAAGAGTCCCTGCTACGTGGACAAGAACTGTGACCTGGACGTGGCCTGCCGACGCATCGCCTGGGGGAAA TTCATGAACAGTGGCCAGACCTGCGTGGCCCCTGACTACATCCTCTGTGACCCCTCGATCCAGAACCAAATTGTG GAGAAGCTCAAGAAGTCACTGAAAGAGTTCTACGGGGAAGATGCTAAGAAATCCCGGGACTATGGAAGAATCATT AGTGCCCGGCACTTCCAGAGGGTGATGGGCCTGATTGAGGGCCCAGAAGGTGGCTTATGGGGGCACCGGGGATGCC GCCACTCGCTACATAGCCCCCACCATCCTCACGGACGTGGACCCCCAGTCCCCGGTGATGCAAGAGGAGATCTTC GGGCCTGTGCTGCCCATCGTGTGCGTGCGCAGCCTGGAGGAGGCCATCCAGTTCATCAACCAGCGTGAGAAGCCC CTGGCCCTCTACATGTTCTCCAGCAACGACAAGGTGATTAAGAAGATGATTGCAGAGACATCCAGTGGTGGGGTG GCGGCCAACGATGTCATCGTCCACATCACCTTGCACTCTTGCCCTTCGGGGGGCGTGGGGAACAGCGGCATGGGA GAAGGCCTGAAGGTCAGATACCCCCCGAGCCCGAGCCAAGATGACCCAGCACTGAGGAGGGGGTTGCTCCGCCTGGC CTGGCCATACTGTGTCCCATCGGAGTGCGGACCACCCTCACTGGCTCTCCTGGCCCTGGGAGAATCGCTCCTGCA GCCCCAGCCCAGCCCCACTCCTGTGACCTGCTGACCTGTGCACACCCCACTCCCACATGGGCCCAGGCCTCA CCATTCCAAGTCTCCACCCCTTTCTAGACCAATAAAGAGACGAATACAATTTTCTAACTC

5151/6881 FIGURE 4752A

AACTGGAAGGCGCCCGGTCCTTTCTTTGACTGGAGCGGACCCGCCGGACGCAACCGCCTCGCCAGCCGGAGCCAG CGCGAGCTCGGCACGGTGGACACCCGGTCCGAGGCCGGCAAGCCGGCTGGTGCCCGAGTCGGCCAAGCATGGGCA ACCACTCAGGACGGCCCGAGGATCCGGAACCAGGGCCTTTACAACAACTAAACGGACAGGCATTCCAGCCCCAC GGGAATTTTCAGTAACTGTCTCAAGAGAGAGGTCTGTGCCACGTGGTCCCTCCAACCCCAGGAAATCAGTGTCCA AAGGTGGAGAAAAGGCTGCGCTTGAGTCCCAAGTTCGGGAACTTTTGGCAGAAGCCAAAGCAAAAGATAGTGAAA TTAACAGGCTTCGAAGTGAACTAAAGAAATACAAAGAGAAAAGGACTCTGAACGCTGAGGGGACTGATGCTTTGG GCCCAAATGTCGATGGAACATCAGTCTCCCCAGGTGACACGGAACCTATGATAAGAGCTCTTGAGGAGAAGAACA ACTCCCCAAATTCAGAAGGGGCAGCAAGTCACACTGGCGACAGCAGCTGCCCAACATCCATAACTCAAGAGTCAA TACGGACATCAGGCTCCTCAAGTAGCGATGTTACCAAAGCTTCTTTGTCGCCAGATGCTTCCGACTTTGAGCACA TTACAGCAGAGACACCCTCAAGGCCCCTGTCCTCCACCAGTAACCCCTTTAAGAGTTCAAAGTGTTCTACTGCTG GGAGTTCCCCAAACAGCGTAAGTGAATTGTCCCTGGCTTCCCTCACAGAGAAGATACAAAAGATGGAAGAAAACC ACCATAGCACTGCAGAAGAACTACAGGCTACTCTACAAGAATTATCAGACCAGCAACAAATGGTACAGGAATTGA CAGCTGAAAATGAGAAGCTGGTGGATGAAAAGACGATTTTAGAGACATCCTTTCATCAGCATCGAGAGAGGGCAG AGCAGCTAAGTCAAGAAAATGAGAAGCTGATGAATCTTTTACAAGAGCGAGTAAAGAATGAAGAGCCCACCACTC AGGAAGGAAAATTATTGAACTGGAGCAGAAGTGCACAGGTATTCTTGAACAGGGCCGCTTTGAAAGAGAAGAAGC TACTCAACATTCAGCAGCAGTTGACCTGTAGCTTGCGGAAGGTTGAGGAAGAAAACCAAGGAGCTTTAGAAATGA TTAAACGTCTGAAGGAAGAAAATGAAAAACTGAATGAGTTTCTAGAACTGGAACGGCATAATAATAACATGATGG CCAAAACTTTGGAAGAGTGTAGAGTTACCTTGGAAGGGCTAAAAATGGAGAATGGATCTTTGAAGTCTCATTTGC AGGGTGAGAAGCCAGAAGCCACAGAGGCCAGTGCTGTGGAGCAGACGGCAGAGAGCTGCGAAGTTCAAGAAATGT TGAAAGTAGCCCGAGCAGAAAGATCTACTGGAACTGTCTTGCAATGAGCTCAGACAAGAATTACTAAAGGCAA ACGGTGAAATTAAACATGTTTCCAGTCTGCCCAAGGTGGAAAAGGATTATTCATACCTGAAGGAGATATGTG ATCACCAAGCCGAACAGCTGAGCAGAACCAGCCTAAAGCTGCAAGAAAAAGCATCAGAGAGTGATGCAGAGATCA ${\tt AAGACATGAAAGAAACCATATTTGAATTGGAAGATCAGGTGGAACAGCACCGGGCTGTCAAGTTACACAATAATC}$ AACTCATCAGTGAGCTAGAAAGTAGTGTGATCAAGCTGGAGGAACAGAAGTCAGACCTGGAGAGCAGCTGAAGA TGGCCAATGACATCAAGTGTGAGGCCCAGCAGGAGCTGCGCACCGTGAAGAGGAAACTGCTGGAGGAGGAGGAGA AGAATGCCCGGTTGCAGAAGGAGCTGGGGGATGTGCAGGGCCACGGCAGGGTGGTCACCAGCAGAGCCGCCCCTC CACCTGTGGATGAAGAGCCAGAGTCCTCTGAGGTCGATGCTGGTCGGTGGCCTGGTGTCTGTGTTAGCAGAA CATCTCCAACACCCCCAGAGTCGGCAACCACCGTTAAGTCACTTATCAAGTCATTTGACTTGGGACGCCCAGGTG GAGCTGGACAGAATATTTCTGTCCATAAGACCCCCAGAAGTCCCCTAAGTGGGATACCAGTGAGGACTGCTCCAG GCTTGGACCTTCCTGACCTTCCCCTCTCAGATATTCTAAAGGGAAGGACTGAGACCCTGAAGCCAGACCCCCACC TCCGCAAGAGTCCCTCACTAGAGTCACTGAGCAGACCCCCGTCTCTGGGCTTTTGGGGACACAAGACTGCTGAGTG AATACGGTGGTTCCAAGCGCAATGCTCTACTGAAATGGTGCCAGAAGAAGACACAAGGTTATGCGAACATTGACA TCCCCTACCAGGAGCTGAATAGTCAGGAGAAAAAGAGGAATCTCTTGTTGGCATTTGAAGCGGCTGAAAGTGTAG GCATCAAACCCAGCCTGGAACTCAGCGAGATGCTGTACACAGACCGGCCCGACTGGCAGAGTGTGATGCAGTACG TGGCCCAAATCTACAAGTACTTTGAGACGTAACCCTGGAGGGCCTGGGGCAGCCACCATTGCCACCTACTGCAGC GGCTCAATCCAAGTGGACCAACACCCAAATAAGAAACAGAGTGGGTCCCACGATGTACCTGTCTGAAATGCAAAT CAGACAAAGAACATCTCCAAATCAGTCTTTTGGTTGCTGTTGTTAAAAATATCCCGGCTTTGCCTTTATGAAACC TTTGCCCTTGGCTGGGTGGGTAGCTCGTGGCTGTAATCCCAGCACTTTAGGAAGCCAAGGCAGTAGGATCGTTT

5152/6881 FIGURE 4752B

 ${\tt GAGCCCAGGAGTTCGAGCTGCAGTGAGCTATGAGCATACCACTGCACTCCAGCCTGTGTGAAAGAGCCAGACCCTGTCTC}$

MGNHSGRPEDPEPGAFTTTKRTGIPAPREFSVTVSRERSVPRGPSNPRKSVSSPTSSNTPTPTKHLRTPSTKPKQ ENEGGEKAALESQVRELLAEAKAKDSEINRLRSELKKYKEKTLNAEGTDALGPNVDGTSVSPGDTEPMIRALEE KNKNFQKELSDLEEENRVLKEKLIYLEHSPNSEGAASHTGDSSCPTSITQESSFGSPTGNQMSSDIDEYKKNIHG NALRTSGSSSSDVTKASLSPDASDFEHITAETPSRPLSSTSNPFKSSKCSTAGSSPNSVSELSLASLTEKIQKME ENHHSTAEELQATLQELSDQQQMVQELTAENEKLVDEKTILETSFHQHRERAEQLSQENEKLMNLLQERVKNEEP TTQEGKIIELEQKCTGILEQGRFEREKLLNIQQQLTCSLRKVEEENQGALEMIKRLKEENEKLNEFLELERHNNN MMAKTLEECRVTLEGLKMENGSLKSHLQGEKQKATEASAVEQTAESCEVQEMLKVARAEKDLLELSCNELRQELL KANGEIKHVSSLLAKVEKDYSYLKEICDHQAEQLSRTSLKLQEKASESDAEIKDMKETIFELEDQVEQHRAVKLH NNQLISELESSVIKLEEQKSDLERQLKTLTKQMKEETEEWRRFQADLQTAVVVANDIKCEAQQELRTVKRKLLEE EEKNARLQKELGDVQGHGRVVTSRAAPPPVDEEPESSEVDAAGRWPGVCVSRTSPTPPESATTVKSLIKSFDLGR PGGAGQNISVHKTPRSPLSGIPVRTAPAAAVSPMQRHSTYSSVRPASRGVTQRLDLPDLPLSDILKGRTETLKPD PHLRKSPSLESLSRPPSLGFGDTRLLSASTRAWKPQSKLSVERKDPLAALAREYGGSKRNALLKWCQKKTQGYAN IDITNFSSSWSDGLAFCALLHTYLPAHIPYQELNSQEKKRNLLLAFEAAESVGIKPSLELSEMLYTDRPDWQSVM QYVAQIYKYFET

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5154/6881 FIGURE 4754

CGCGGTGCCTTTTGAGCTCCTTGTCCACGCTCCGCCCCTGTGGGAACGGCCGCGCTCCCCGCAGCTGGTCATCCG CCGCCTGCCTCCGGGCCTCACCAAGGAGCAGCTGGAGGAGCAGCTGCGCCCGTTGCCAGCACACGACTACTTCGA GTTCTTCGCCGCCGACCTGAGTCTTTATCCTCATCTCTACTCAAGAGCATACATTAATTTTAGGAATCCTGATGA CATCCTTCTTTTTAGAGATCGTTTTGATGGGATATATCTTCCTTGACAGCAAAGATCCAGAATATAAGAAGTTTT TAGAAACCTACTGTGTGGAGGAAGAGAGGCCAGTGCCAACCCTGAGACTCTGCTGGGGGAGATGGAGGCGAAGA CAAGAGAGCTCATTGCTAGAAGAACCACACCTCTTTTGGAATATATAAAAATAGAAAATTAGAAAAGCAGAGAA TTCGAGAAGAGCGAGAAGAACGGAGGAGGAGAGTTAGAAAAGAACGTTTGCGGGAAGAGAGAAAAAAGAA ATTGATACTGGAGGTGGCAAGCAGGAATCCTGTGCCCCCGGTGCAGTCGTAAAAGCCAGGCCCGTGGAAGGCTCG CTGGAGGAGCCCCAGGAGACGTCACACAGCGGCAGTGATAAAGAGCACAGGGATGTGGAGAGATCTCAAGAACAA GAATCTGAAGCACAAAGACACCATGTGGATGATGGCAGGAGGCACAGAGCTCACCACGAGCCTGACCGGCTTTCC AGAGGGAGTGAGGATGAGCAGAGATGGGGGAAAGGACCTGGCCAAGACAGAGGGAAGAAGGGGAGCCAGGACAGC GGGGCTCCGGGGGAGGCCATGGAGAGACTGGGAAGAGCGCAGAGGTGTGACGACAGTCCAGCACCCAGAAAAGAG CGACTGGCAAACAAGGACCGGCCAGCCTTGCAGCTGTATGATCCAGGAGCTCACTTCCGAGCGCTAGAGTGTGGC GCACGCACCTGGCCTCCATGGACGAGCGAGGGCATCCCAGAAACGTGTAAATGACCCCGAGTGTGACTGGGAAGG AGAACTTATTCCTTACCAGGAAACTGGAAGCTAAAACTACAGAGGGTGACATAGAAACACGCAGAAACCATTCTA AAGAAAGTAGTGATCTTGTATTAAATTGAGCAGAATTCTCACAGATTTTACCATTCCTGTTATAAACTAGTATTT GTTGTTTAGCCAAAACAGAAAATGATTTCCACTGGACAGTAGAAAAATATGTGTAAAAATAGGGAAGAAAGTTAGT ATTGGATCAGTGTGAGCCCTGAAGCACTTTCAGTGCTGTGAGAACGACATCCACTTTGGGTTTCATTCGTTTGTA AGCAGAGGAGCTGTCAGTCACTCGTGCTTCTCGTTGGCCTCTGAGCCATGGTGTCGAGTGAAGAGTAGTTCTTGT TTGTTACAACCTTTGTGAGTCAGCCATGCCTGCAAAGTGTGCTGTTTTTAGTCCTGGTAGGAATATTTATCAGA GTTCACACTATATAAAACCCAACAGCTTCAACTATTGCCCTTTCAACAGTTTTGCCACTGACCGGATAAAAACGG TTTCAGTCTTTGGATGGATGTGTTTGTGGTTTGTAACCATTACGGTTTAAACCATGGTTTAAGAATTTGCCCAAA TAACAGAAATTTTGTTCGGGAAGGGATAAACGAGATATAGCATATAGAGCCTGTTTTTGAGTTTTAGATACTTTA TTTGTAAATAACTTAAAATAGCTTTCTGAAACCGTGCATTCTGTAGTTTCTTCCTTTCAGTGAAATTGCTAAATG

GTAAGACACCTTTGCAGTCCTTCCTGGGAATCGCTGAGCAGCACGGGGGCCCCCAAAATGGGACCCTGATCACTC AGACTCTGAGCCAAGCCAACCCCACTGCCATCACTGCAGAAGAATACTTCAACCCCAACTTTGAGCTGGGCAACC GTGATATGGGCCGCCCCATGGAACTGACCACCAAGACACAGAAGTTCAAGGCCAAGCTGTGGCTGTGAGGAGC ${\tt ATCCCCTGTCCCTGTGTGAGCAGGTGGCCCCCATCATTGACCTCATGGCCGTCAGCAATGCGCTTTTTGCCAAGC}$ TCCGGGACTTCATCACCCTGCGTCTGCCTCCTGGCTTCCCAGTTAAGATTGAAATCCCGATCTTCCACATCCTCA ACGCCCGCATCACCTTCGGGAACCTCAACGGCTGCGACGACCGGTGCCATCGGTGCGAGGCAGCCCCAGCAGCG AGACGCCTTCCCCAGGCAGCTCCTCCAGCGTCAGCAGCTCCACGACCTCCTGXCCGCGGCTGCGAG ATCTCCCCAGCGTTGTTCGAGGCCCCGCGCGGCTACAGCATGATGGGCGGCCAGCGGGGAGGCGGCGACCCGGGGAC GACGACGACCTGCTGCAATTCGCCATCCAGCAGAGCCTGCTTGAGGCGGGCAGTGAGTATGACCAGGTCACC ATCTGGGAGGCGCTAACCAACAGCAAGCCAGGCACCCCATGTCCTACGAGGGTCGCCGACAGGACAGGAGC GCCCCGCCCACGCCGCAGCCTGCGCCCCCGGCGTCAGTGCCCAGCCCTCGGCCCAGCTCAGGGCCAGGT TCCGGCGGCCACGTGTTCCGGAGCTACGACGAGCAGCTGCGGCTGGCGATGGAACTGTCGGCGCAGGAGCAGGAG GAGAGGCGGCGCGCGCGCGCAGGAGGAGGAGCTGGAGCGCATCCTGAGGCTCTCACTGACCGAGCAGTAG CGCCCCTGCCGGGACCCTCGCCAGCGCCACGCGCCCAGGGCCAGGACAGACCCCGGCCTGC GCGCCTGCAGAGCGGCGGGAGACTGGAGCCACCGCCTCGCGGGTGCAGCAGCACAGCAGGCACGGTTCGGGG AGGGATTCGGCATGGCCGCGGGGTACCTTCCCAGGCCAGGGCCTGGAGGCAACTGGCACGGCCTGGTCCCCCTG CTTTGCTGTATTCTGATTCCCCAACCCGCTCCCCTGGGCTCAGATCTGTCCTGTCCTAGGGCGGAGCCAGGCGGT CCTGAGGGGGAGATGAATCCTTAGAGGAGCGCTGTCCCTATCCCTTGCTCCTTCTGGCCGGTCCGCATTTCTGTT CACTAACCCCACTCCAGGACACTGCCCCTGAAGCCTTTGCATCTCTGCTCTTCACTCCTGGGGGGCAGCTGAGCT CCCCGCGTGCTGTCACTGCTTTGTTCCAGACACAAACCAGCACGTCTAGGGCCCAGCCCCTCCCCACCCCGG CATTTCAGCGTCAAGTGCACTTAGCGGGGTACCCGGCTCCCCAGCCCCCACACCCGTCCTGGGTCTCAGGGTGG ATCAGGGAGTGTGCCAACGTAGCCCCTGGCCTGTGCAAGCCCTGACTCCCTCATGGTGCCTCGGAGAGTGGGG AGCATATTGGGCTGGGGTAAGCACTAGACCCAAGTAGACTGGACACAAAGGGCTCGCCCAGGGCCCTGGCGCCAC TAAAACCCTTCATCCAATGGTGCTAACCCCCGGCTCTCCCCTGCCCCACCTCACCCAGCAGAAGCACAGACC $\tt CCGCCAGGGGCCCACCGCACACCCTTGTCCCGGGCCTGTCTGGGACTGGCCTTCCCGGCTCAGCCAGTG$ GCCAGGGGCACCAGACTGATTCTGAGGCACAAATAAAAGAGGCTTCATACCGG

MTWQRGNRSFVFRGQDTSAVVMEIDHDRRVVYTETLALAGQDRELLLAAAQPTEEQVLSRLTAPVVTTQLDTKNI SFERNKTGILGWRSEKTEMVNGYEAKVYGASNVELITRTRTEHLSEQHKGKVKGCKTPLQSFLGIAEQHGGPQNG TLITQTLSQANPTAITAEEYFNPNFELGNRDMGRPMELTTKTQKFKAKLWLCEEHPLSLCEQVAPIIDLMAVSNA LFAKLRDFITLRLPPGFPVKIEIPIFHILNARITFGNLNGCDEPVPSVRGSPSSETPSPGSDSSSVSSSSSTTSC RGCEISPALFEAPRGYSMMGGQREAATRDDDDDLLQFAIQQSLLEAGSEYDQVTIWEALTNSKPGTHPMSYEGRR QDRSAPPTPQRQPAPPASVPSPRPSSGPGSGGHVFRSYDEQLRLAMELSAQEQEERRRRARQEEEELERILRLSL TEQ

GCATCCATCAGCAGGGGTGTGCTGGTGTGTGACGAGTGCTGCAGCGTGCACCGGAGCCTGGGACGCCACATCTCC ATTGTCAAGCACCTTCGCCACAGCGCCTGGCCTCCCACGCTGCTGCAGATGGTGCACACGCTTGCCAGCAACGGG GACAAAGTCCACCCCATCAAGTCAGAGTTCATCAGGGCCAAGTACCAGATGCTGGCATTTGTGCACAAGCTTCCC GAGACATGTCTGCGCCTGCTCTCCCTGGGTGCCCAGGCCAACTTCTTCCACCCAGAGAAGGGCACCACACCTCTG ${\tt CACGTGGCTGCCAAGGCAGGACAGACACTGCAGGCCGAGCTGCTTGTAGTGTATGGGGCTGACCCTGGCTCCCCT}$ TGCCAATATGAGCTCACTGACCGGCTGGCCTTCTACCTCTGTGGACGCAAGCCGGATCACAAGAATGGGCATTAC ATCATCCCACAGATGGCTGACAGATCTCGGCAAAAGTGCATGTCTCAGAGCCTTGACTTATCCGAATTGGCCAAA GCTGCTAAGAAGAAGCTGCAGGCGCTCAGCAACCGGCTTTTTGAGGAACTCGCCATGGACGTGTATGACGAGGTG GATCGAAGAGAAAATGATGCAGTGTGGCTGGCTACCCAAAACCACAGCACTCTGGTGACAGAGCGCAGTGCCGTG CCCTTCCTGCCTGTTAACCCGGAATACTCAGCCACGCGGAATCAGGGGGCGACAAAAGCTGGCCCGCTTTAATGCC CGAGAGTTTGCCACCTTGATCATCGACATTCTCAACAACCTCGAGCTGTCTCTGCGGAGCCAGAGTGACCTCGAC GACCAACACGACTACGACAGCGTGGCCTCTGACGAGGACACAGACCAGGAGCCCCTGCGCAGCACCGGCGCCACT CGGAGCAACCGGGCCCGGAGCATGGACTCCTCGGACTTGTCTGACGGGGCTGTGACGCTGCAGGAGTACCTGGAG CTGAAGAAGGCCCTGGCTACATCGGAGGCAAAGGTGCAGCAGCTCATGAAGGTCAACAGTAGCCTGAGCGACGAG CTCCGGAGGCTGCAGCGAGAGATCCACAAGCTGCAGGCGGAGAACCTGCAGCTCCGGCAGCCTCCAGGGCCGGTG CCCACACCTCCACTCCCCAGTGAACGGGCGGAACACACCCCATGGCGCCAGGCGGGAGCACACCCCAGGGAT CGCCAGGCCTTTTCCATGTATGAACCTGGCTCTGCCCTGAAGCCCTTTGGGGGCCCCCCTGGGGACGAGCTCACT ACGCGGCTGCAGCCTTTCCACAGCACTGAGCTAGAGGACGACGCCATCTATTCAGTGCACGTCCCTGCTGGCCTT GAGGGAAGCCGCCACACGAGCAAGCTTTCCCGCCACGGCAGTGGAGCCGACAGTGACTATGAGAACACGCAAAGT GGGGACCCACTGCTGGGGCTGGAAGGGAAGAGGTTTCTAGAGCTGGGCAAAGAGGAAGACTTCCACCCAGAGCTG GAAAGCCTGGATGGAGACCTAGATCCTGGGCTTCCCAGCACAGAGGATGTCATCTTGAAGACAGAGCAGGTCACC AAGAACATTCAGGAACTGTTGCGGGCAGCCCAGGAGTTCAAGCATGACAGCTTCGTGCCCTGCTCAGAGAAGATC CATTTGGCTGTGACCGAGATGGCCTCCTCTTCCCAAAGAGGCCAGCCCTGGAGCCAGTGCGGAGCTCACTGCGG CTGCTCAACGCCAGCGCCTACCGGCTGCAGAGTGAGTGCCGGAAGACAGTGCCCCCAGAGCCCGGCGCCCCAGTG GACTTCCAGCTGCTGACTCAGCAGGTGATCCAGTGCGCCTATGACATCGCCAAGGCTGCCAAGCAGCTGGTCACC ATCACCACCGAGAGAAGAAGCAGTGACCTCTCTCCCCACACCCTCACCTGCACCCTAGGACCTCACTGGCCATA GGAGCTGGGCCACTCCAGACATTAATCCCCACCCCAACAGAGCCACTGGCACAAGTGCCCTTAGTGCTGCCACAC TCCCTGGCAGCCAGGTGCCCTGGTGCCCACCCCTGTCGAGCCCCTAAGGATGGGGAGGTTGGGGGGGCAGGAGCT TCTGTCCCCCACATTCCATGCACCTCCCCTCTGTATATAGCATCTCCCCCCTCCTAGTGAGCAGGGGCCTGCAAG GCATCACTCCCAGCCCCTCGCCTTCTAGGGCACCCTCAGCAAAGGGGCAGGTGGGGACACTCCAAGTGGGGCAGC TCTCCGTACATGCGCCCCACCCCCATGAGCCAGTTCAGCCCTACTGGGGGGCTGAGCGGGGGGCATCCCCTTCTTTG TACATAGTCTCCATGGATGTCCCTGCCCTGTAGCCACCAGCCCCTTGCTGCTCTCCCTTTAATGCCATATGGCCC TCTTTCTTCTCCCCACCCCTTAATTTTAACTTTGTGGTAACTGAGTGCCCCCGCGTGCCTGCGTGTTGAGTGTG TGGGCGGCAGTGCCGTTCCGGAGGCCTGGTCCATCTGGAGTTTTGAGGGGTGAGGGGACCAGAGCAGTGGGACCA GCATGGGGATCAGCTTCCCCTCCCACCTGGAGCCAGGGACTGTCCGGGTAGCCAGTTTTGGTCCTGCCAGCTGC CTCCCTGATCCCTCCCCACTCTCGCCCCTTCTCTATGAACTTAAATCAAAAACCACTTCCCTCCATCTCCTCCTG CTCCTGCGTGGAGGGGGAATGTGTGCTGGCTAGGGTGGAGGACTGAGCACCTGAGCCTGGGGCTGCCTCCCGGG TACCTGCACCTGCTGGTCCCACCCTCTGGAGGCCTGGGAACCTGGCTGCAGCCTGGGAAGGCTGGAGAGGCAG ACGGTGGGACCCACCAGCTCTCCCCCATCCCGCTTCTTCCCTGGGGGCCCAGGCCCTACCTGTGTGGTGGTGGT GGGCTGTCAAGACGTGTCATGTACATTTGTATCAAAAATAAAGAAGTGACCATG

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5158/6881 FIGURE 4758

AGCCCTCGCGGGGGCAAGGCGGCGACCGAGGCGCGTGGGTCTGGGAAGGCGCGCGGATTTGGCCCCTCTTCTCAC ATCAGCGGGTCCAGGCCCAACCGACAGACTATGGGGGCTCCGGCAACCAGGCGCTGCGTGGAGTGGCTGCGGGC CTCTACTTCCTCAGCCACATCCCCATCACCCTGTTCATGGACCTGCAGGCGGTGCTGCCGCGCGAGCTCTACCCA GTCGAGTTTAGAAACCTGCTGAAGTGGTATGCTAAGGAGTTCAAAGACCCACTGCTACAGGAGCCCCCAGCCTGG GGAAGCTGCAAGTGGATTCGAACTCCTGCAATCATCTACTCTGTTCACACCATGACAACCTTAATTCCGATACTC TCCACATTTCTGTTTGAGGATTTCTCCAAAGCCAGTGGTTTCAAGGGACAAAGACCTGAGACTTTGCATGAACGG TTAACCCTTGTGTCTATGCCCCCTACTTACTCATCCCATTCATACTTTTAATTTTCATGTTGCGGAGCCCC TACTACAAGTATGAAGAGAAAAAAAAAAAATGAAGGAAACAACCACTGGCCCAGGGTAGAGATGCCTACAGG GTGGTTGCTTGTTGGATACAATACAAGGAACACTGCTCAGAACCCACGTCTTCAGCAGCATTTGAAACACTGGCA GACAGTCTCACTCTGTTGCCCAGGCTGGAGTAAAGGGCAGTGGCATGATCTCGGCTCACTGCAACCTCCGCCTCC TGGGCTCAAGCCATCTTCCTTAGCCTCCCAAGTAGCTAGAACTACAGGTGTGTACCAACACGTATGGCTAATTTG TTTTGTTTTTTTGTGTGTGGAGACAGGGTTTTGCCATGTTGCCCAGGTTGGTCTCGAACGCCTAGGCTCAAG TGATCTGCCCACCTCAGTCTCCCTAAGTGCTGGGATTACAGACGTGAACCACTGGGCCCAGCCCAAACCTTCACC TTCTAAGGGCACTGGGATGAACAGACCGATCGGCTTGAGGGTGGGCAAAGGGGTGTGGGCTAGGTTATAAGGAAG TGGTACCAAATAACTGTGTGCCTGAGTTCCACCGCAAGATTACTAAAAGCAGGACCAGAACCAGAAACTGCTAAAG AACATGGCCTGTTTGACATGTTCATGAGTCACCTGACCCACAGCATATATGCTTATGACTAAACCCTCCACTCCT GATTCTCAAGAGTGTATCACCTGTCAGCAAAATGAATAGTGGGATATTTTGGGCCATTTTAAATGTGAAATTTTG CCTCTTTAATGTTAATTCAAAACTATATCAATGTTTTCTTGTTCCCACCTCTAACCCAAGGAAAAAAGAGAAAAC ATACTATGCAAAGGAAGTTTAAACTTAAGTTTTCCTTAAGGGTCAGCCCAACAATGACTTTCAGTCAAATGGATT AATTAGTTTATTTCTAAATCTTAGTCTTCCACATTTCTAGAGGCCACCTGACACAAGTCCCTGTATCTGAAGTCT AGCATCTCAAGGCTGATCTGGAAGTGTGCTAGTATGCTCCCTAGTGGATAACTTAATCTTTTAATACAGTTCCGT CATTCCCATCTTGTTTTCAGAAGAGAAGGTGGCTACAGCCAGGCATAACATATCCACTGTGTGCATAGAGGGTCT CTTCACGTTGATGCTTGGCATTCCATCAGCTTTCTCTAAGTCTTTGCTCAAGTTCAACCTTAAAATGATGTTAGA CAACAGGTCCCAGTCAGTTCCCTCTATTTTCACCCATTTTGCTCACAAGCCATATTGGCCCGATTAGTGGTACTG TCTGACTCACGTGTGTGATCCAAATAAAGGTAGCTGCTG

 $\label{thm:convenience} {\tt MKRKEKKNEGNNHWPRVEMPTGWLLVGYNTRNTAQNPRLQQHLKHWQQCTRARWCQEPCQTLTFFHFFFFKTVS} \\ {\tt LCCPGWSKGQWHDLGSLQPPPPGLKPSSLASQVARTTGVYQHVWLICFVFFVCVETGFCHVAQVGLERLGSSDLP} \\ {\tt TSVSLSAGITDVNHWAQPKPSPSKGTGMNRPIGLRVGKGVWARL} \\ {\tt MKRKEKKNEGNNHWPRVEMPTGWLLVGYNTRNTAQNPRLQQHLKHWQQCTRARWCQEPCQTLTFFHFFFFKTVS} \\ {\tt LCCPGWSKGQWHDLGSLQPPPPGLKPSSLASQVARTTGVYQHVWLICFVFFVCVETGFCHVAQVGLERLGSSDLP} \\ {\tt TSVSLSAGITDVNHWAQPKPSPSKGTGMNRPIGLRVGKGVWARL} \\ {\tt MKRKEKKNEGNNHWPRVEMPTGWLLVGYNTRNTAQNPRLQQHLKHWQQCTRARWCQEPCQTLTFFHFFFFFKTVS} \\ {\tt MKRKEKKNEGNNHWPRVEMPTGWLLVGYNTRNTAQNPRLQQHLKHWQQCTRARWCQEPCQTLTFFHFFFFFKTVS} \\ {\tt MKRKEKKNEGNNHWPRVEMPTGWLLVGYNTRNTAQNPRLQQHLKHWQQCTRARWCQEPCQTLTFFHFFFFFKTVS} \\ {\tt MKRKEKKNEGNNHWPRVEMPTGWLLVGYNTRNTAQNPRLQQHLKHWQQCTRARWCQEPCQTLTFFHFFFFFKTVS} \\ {\tt MKRKEKKNEGNNHWPRVEMPTGWLLVGYNTRNTAQNPRLQQHLKHWQQCTRARWCQEPCQTLTFFHFFFFKTVS} \\ {\tt MKRKEKKNEGNNHWPRVEMPTGWLLVGYNTRNTAQNPRLQQHLKHWQQCTRARWCQEPCQTLTFFHFFFFFKTVS} \\ {\tt MKRKEKKNEGNNHWPRVEMPTGWLLVGYNTRNTAQNPRLQQHLKHWQQCTRARWCQEPCQTLTFFHFFFFFKTVS} \\ {\tt MKRKEKKNEGNNHWPRVEMPTGWLLVGYNTRNTAQNPRLQQHLKHWQQCTRARWCQEPCQTLTFFHFFFFFKTVS} \\ {\tt MKRKEKKNEGNNHWPRVEMPTGWLLVGYNTRNTAQNPRLQQHLKHWQQCTRARWCQEPCQTLTFFHFFFFFKTVS \\ {\tt MKRKEKKNEGNNHWPRVEMPTGWLLVGYNTRNTAQNPRLQHTMTAQNPLAQNPLTMT$

GCCACCCAGCTGAGAGGGGGGCGCCCCGGGGACGCACTGAGATTATGAGGCTCTGGCCTCCACTGGCCACTCA CTCGTGACCCTTTCCACCACGGCGGAGCCTTCCAAGCCTACCTCCTGCCGTGTGGTGATCTACCTGCAGCGGGAG ATGTCGGGGGACACCTGCCCTGTGCCCAGCCTCAGGGGCCCAAGCCCAGCTCAGTGGCTTCAAGGGAGGAGGGTTG GGCAACAAGTATGTCCAGCTCAACGTGGGCGGCTCTCTGTACTACACCACTGTGCGGGCCCTGACCCGCCACGAC ACCATGCTCAAGGCCATGTTCAGTGGGCGCATGGAGGTGCTGACCGACAAAGAAGGCTGGATCCTCATAGACCGT ATCAAGGAATTGATGGCTGAAGCAAAGTATTACCTCATCCAGGGGCTGGTGAATATGTGCCAGAGTGCCCTGCAG GACAAGAAGGACTCCTACCAGCCTGTGTGCAACATCCCCATCATCACATCCCTAAAGGAGGAGGAGCGGCTCATC GAATCCTCCACCAAGCCCGTGGTGAAGCTGCTGTACAACAGAAGCAACAACAAGTATTCCTACACCAGCAACTCT GACGACCACCTGCTGAAAAACATCGAGCTGTTTGACAAGCTCTCCCTGCGCTTCAACGGCCGCGTGCTCTTCATC AAGGATGTCATTGGTGACGAGATCTGCTGCTGGTCCTTTTATGGCCAGGGCCGTAAGCTGGCAGAGGTGTGCTGT ACCTCCATCGTGTATGCCACGGAGAAGAAGCAGACCAAGGTGGAATTCCCAGAGGCCCGAATCTATGAGGAGACA CTCAACGTCCTACTCTATGAGACTCCCCGCGTCCCCGACAACTCCTTGTTGGAGGCCACAAGCCGTAGCCGCAGC CAGGCTTCCCCCAGTGAAGATGAGGAGACCTTTGAACTGCGGGACCGTGTCCGCCGCATCCACGTCAAGCGCTAC AGCACTTACGATGACCGGCAGCTCGGCCACCAGTCTACCCATCGCGACTGACCAGACCCTCAGGGAGTCAGGGCA CGGGAGGCCCTATCTCCCATCCTGTGGAACCCGCCCCATTGGCCACCCCATGCTGCTGCTGCCTGGGTCTCTGCT CTAGCACCCAGAGGCATGACAGGCCCTGCTCAGAGGTCAGAGGGTCTGGGCAGAGGGGGCCCCACATTCCCCTGC CTTGCCCCTGAGCACTTCTGGAGACTGCGTCCTGTCCTATCTGCTCACCATCACCCTTCCTGCCCGACGGAGCTG CTTCTGCTCCCTGGGGCATATGGACTGACCCACCTCCTGCTGAGAACCTTCCCCTAGGCCCTGTGCAGAAGGCTA CTGCCCCTTAGGCCTCAGCTGGGGGAAAGGCAGTTCTGGTGCTGTAGAGGCCCTGGTGCAGAAAGTGGGACGTCT TTTTTCCTAAGGTGTTTAAGCACAGGCTTGATAAGTTTGGTTTTTAAAAAATCTAGGAAATGAATAATTCTA AATCTAGTAATGAGGAAACTGAGCATTTCTTTTGCCCTCCAGGGTGCCAAGACCCTACATATGACAGAACCCTTG GCCCTTCTCCATGCCTGTGGGATCTGTTTCTTTAAAGCACTTTGTACTGTTATTCAGGAGGTTGATAATCTCCTT AAAAAAAAACATCCGACAGAGCAGCTCTGGCTTTGCAGCCTGGCCAGCAGCTCAGAGTGCACCGAGGAGGGAAGG ATGGCTAAGCTGGGACCGGCAGTCCTCACAGGGTGCCTGTGAGAAAGGACATTTTACCCCCACATCATAGTCACA TCACTGACTCCTAGGTCTAGCACGACTGCTCTTTGTGATTCTCTTGAGTACCCTTGGCTTCCAGCCATGCTGTCC TCACATACGGTAAAGCCAAAGAGCTGTCACATGGGCCAGAAACATGAGCCACGGCAGGAAGACCGTGGAGCCCGT GGGCACTGCATGGTGTTGGCTGGCATGCCCATCAGCTGAGGACAGCAAACTCCCAGCAGCCCCTACAGAGGTGGC TGCCCAGTGGTGTCTCTGAGCGCGGGATGACAGGAGCAACCGAAGCACCCTGAAGGCCTTCACTCCTTGTTGGGT AACTCAGCCATGGAGATGCCAAGCACTAGCCAGGAGGTGAGTTCCTCTTTAGGGCTTTGGTTTTCATTCCTTTTT TGCCAGCCTAACAAAGCAACGTAGCCACGTATAGTACCCACTTTCTGCTCTTTTGGAGAACACAGGTTATCAAG TTCATCTCTTGACTACTCTTATGATAGCTGATGCCACAGAGCCTATGGGCAAATGCCAGACCCAGGGTTAGAC ACAAGGACCTGAAGTGACATGACGGCGGGACAGGGGAAATGTGACTTTCTAATTAGGCATTTTATGTTAGTCACA GTCTTGAATGTATAAACAGCACTAAGACTCTCAGGTCAGGTACCTTGGTGATCAGCTACTAGTTCTTCCAGCCCT CATTGAGGTAACAAGATAAAGACAAATCCACTTCTTTGGCCAAATTCAGGCTTTGGCTTTATGACTTTCCCACAG AGACTGGAATGCGTCAGCCTGAGACCACTGGCCTATTTTCTCAGCTGCCCTCTTGAGGTCCTTTAACACTCAAAT TCCCAGCTCCCCACTGAGGTGTTGTGATGCTTGCCTTTTGACCTCCCCATCCCCTTTAGTCCCTGCTTACTACTT TGACATTCACATCCTCAGTGTCTCAGTCTTTTTTGCCGAGAAAGCACAGTAGTCTGGGACTGGGCATTTATCTTC TCTGACTGAAAATCTCTCCTTGGTCTTAAGGAAAATACTAACATTGAACTCACTGACATGATCTTAGCTTCTTTA ATCAGACTTTGTGACTTAAAAGTTTGGGGGTTTTCTTTGAAAGTTTCCAGCCCTATTCAGAAAGCAACTCTTGGC GTTTCTGAGAAACCTGGCAGCCTGCTGTTAACAACACAGGCCAGTATTGGGTTTTATTGAATTTGGTATGTGACC AAGGTCGGCCTAAAGGATGGCGCAGGTCCTGGGCAGGAAAGAATTTTTCCTTTATCACATAACTGTAATATTTGG TTGCTCAGCATAAGTGATGGAAGCAAACACTAATTTCTAATAAAATTGTGTTAAACTC

CCTGGCCGTGGCAGCCGCTGGTGGTCCCGGTCGCTGACTGGGGCCCGGTGGCCAAGGCCGCTCTGTGCGGCGGC CGGAGCTGGAGCCTTCTCGCCAGCGTCGACCACGACGACGCGGAGGCACCTCTCGTCCCGAAACCGACCAGAGGG CAAAGTGTTGGAGACAGTTGGTGTTTTGAGGTGCCAAAACAGAATGGAAAATATGAGACCGGGCAGCTTTTCCT TCATAGCATTTTTGGCTACCGAGGTGTCGTCCTGTTTCCCTGGCAGGCCAGACTGTATGACCGGGATGTGGCTTC ${\tt TGCAGCTCCAGAAAAAGCAGAGAACCCTGCTGGCCATGGCTCCAAGGAGGTGAAAGGCAAAACTCACACTTACTA}$ TAACCATGATGACAGTCGGGCCCTCTATGCCATCCCAGGCTTGGACTATGTCAGCCATGAAGACATCCTCCCCTA CACCTCCACTGATCAGGTTCCCATCCAACATGAACTCTTTGAAAGATTTCTTCTGTATGACCAGACAAAAGCACC TCGGGAAACAACTGAGAACATACGTGTCACTGTCATCCCCTTCTACATGGGCATGAGGGAAGCCCAGAATTCCCA CGTGTACTGGTGGCGCTACTGTATCCGTTTGGAGAACCTTGACAGTGATGTGGTACAGCTCCGGGAGCGGCACTG GAGGATATTCAGTCTCTCTGGCACCTTGGAGACAGTGCGAGGGCCGAGGGGTAGTGGGCAGGGAACCAGTGTTATC CAAGGAGCAGCCTGCGTTCCAGTATAGCAGCCACGTCTCACTGCAGGCTTCCAGTGGGCACATGTGGGGCACGTT CCGCTTTGAAAGACCTGATGGCTCCCACTTTGATGTTCGGATTCCTCCCTTCTCCCTGGAAAGCAATAAAGATGA GAAGACACCACCTCAGGCCTTCACTGG<u>TAG</u>GCCAGCTGAGGCCCCAAGTGCCCAGGCTTGGTCACCGGGAAGAA CAACTCTCATCCCACAATTGCTGCAGAACTCTTCTCTCCCCATCATGGGCCACAGTGGGTCTCTTAATTTGATTG TGGGGTTCTTTTGTGGGGAGGGGTGGTATAACTTTTCTTCAGAAGACCCATGTGGGACACCTCCAAGGCTGGCC TCCTCATAAGCCCTGCCTACACCATGTTCCAGTAAACCTCTCCACCAAGGAACTGTGTTCAGCTGCCACAGGCCT GGAGGAGTTTCCTGGCCTGTCACGTGAGGTTTGATCAGTAAACCAGTGCACGCTTGGCCACCCTTGCCATTTCTG AGAGGAGGGAGGCAAGCCAGTCGGGTTTCCTGGAGCAATGGGTGTGCCAGCCCTCAGCATGACTCTGCCAAGCAT CCAGACCACAATGCAGGAATTTGGCTGAGGAGCAGCTTTAGGTATGGATTGATGACTAAGTCAAGCTACTTCCT GAGCTTCTCTCAGATTTCCAAGAGCCAGAGATGAATTGTGCTGCATCTTGCCCCAATTCTTAGGATTTCTTTTCC TCCGCCACTGCAGTGATTGTTAGAGGTAGTTTTCTTGAATTAATATTAAATCACAGTTCCAGCCCTGTAAAAAAA

MAACTARRALAVGSRWWSRSLTGARWPRPLCAAAGAGAFSPASTTTTRRHLSSRNRPEGKVLETVGVFEVPKQNG
KYETGQLFLHSIFGYRGVVLFPWQARLYDRDVASAAPEKAENPAGHGSKEVKGKTHTYYQVLIDARDCPHISQRS
QTEAVTFLANHDDSRALYAIPGLDYVSHEDILPYTSTDQVPIQHELFERFLLYDQTKAPPFVARETLRAWQEKNH
PWLELSDVHRETTENIRVTVIPFYMGMREAQNSHVYWWRYCIRLENLDSDVVQLRERHWRIFSLSGTLETVRGRG
VVGREPVLSKEQPAFQYSSHVSLQASSGHMWGTFRFERPDGSHFDVRIPPFSLESNKDEKTPPSGLHW

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5163/6881 FIGURE 4763

CAATCATGGATCAATAGCTATGTTTGGAGAAGGAATTTGTGGCTGCTCCAGCTACTGGGCATTTTGTCTGGTCCA GTTCATGTAATCTCCCAACACCCCATGAAGCAAGGCTTTGTTAATCCTATTTTACTGAAAATGAACTAAGACTCA GAGAGATAAAGCTGTTGCCCAATGAGCCTTCTTTCTGCCCTCCAGATCCACGGTGCTAATTCCCCTTCCGATGAC CTAATGATTCTGAGCTTGGCAAAGGTCTTATCTCCCAGCTCGCCCAGGCCCAGTGTTCCAGGAATGTGACCTTTG CTGCAGCAGCCGCTGGAGGGGGCAGAGGGGATGGGCTGGAGGTTGAGCAAACAGAGCAGCAGAAAAAGGCAGTTCC GACCAGAGCCCAGCTTGCCAGGCACTGAGCTAGAAGCCCTGCCATGCCACGCCCTGAGACCCCTTCTCATACTGGC CCTGCTGGCATGGGTTGCTCTGGCTGACCAAGAGTCATGCAAGGGCCGCTGCACTGAGGGCTTCAACGTGGACAA GAAGTGCCAGTGTGACGAGCTCTGCTCTTACTACCAGAGCTGCTGCACAGACTATACGGCTGAGTGCAAGCCCCA AGTGACTCGCGGGGATGTCTCACTATGCCGGAGGATGAGTACACGGTCTATGACGATGGCGAGGAGAAAAACAA TGCCACTGTCCATGAACAGGTGGGGGGCCCCTCCCTGACCTCTGACCTCCAGGCCCAGTCCAAAGGGAATCCTGA GCAGACACCTGTTCTGAAACCTGAGGAAGAGGCCCCTGCGCCTGAGGTGGGCGCCTCTAAGCCTGAGGGGATAGA CTCAAGGCCTGAGACCCTTCATCCAGGGAGACCTCAGCCCCCAGCAGAGGAGCTGTGCAGTGGGAAGCCCTT CGACGCCTTCACCGACCTCAAGAACGGTTCCCTCTTTGCCTTCCGAGGGCAGTACTGCTATGAACTGGACGAAAA GGCAGTGAGGCCTGGGTACCCCAAGCTCATCCGAGATGTCTGGGGCATCGAGGGCCCCATCGATGCCGCCTTCAC CCCTGATTACCCCGGAAATATCTCTGACGGCTTCGATGGCATCCCGGACAACGTGGATGCAGCCTTGGCCCTCCC TGCCCATAGCTACAGTGGCCGGGAGCGGGTCTACTTCTTCAAGGGGAAACAGTACTGGGAGTACCAGTTCCAGCA CCAGCCCAGTCAGGAGGAGTGTGAAGGCAGCTCCCTGTCGGCTGTGTTTGAACACTTTGCCATGATGCAGCGGGA CAGCTGGGAGGACATCTTCGAGCTTCTCTTCTGGGGCAGAACCTCTGCTGGTACCAGACAGCCCCAGTTCATTAG CCGCCCTCCTTGGCCAAGAAACAAAGGTTTAGGCATCGCAACCGCAAAGGCTACCGTTCACAACGAGGCCACAG CCGTGGCCGCAACCAGAACTCCCGCCGGCCATCCCGCGCCATGTGGCTGTCCTTGTTCTCCAGTGAGGAGAGCAA CCCACGCTCCATCGCTCAGTACTGGCTGGCCTGCCCAGCTCCTGGCCATCTGTACGAGTCAGAGCCCACATGGCC GGGCCCTCTGTAGCTCCCTCCCATCTCCTTCCCCCAGCCCAATAAAGGTCCCTTAGCCCCGAGTTTAAA

MAPLRPLLILALLAWVALADQESCKGRCTEGFNVDKKCQCDELCSYYQSCCTDYTAECKPQVTRGDVFTMPEDEY
TVYDDGEEKNNATVHEQVGGPSLTSDLQAQSKGNPEQTPVLKPEEEAPAPEVGASKPEGIDSRPETLHPGRPQPP
AEEELCSGKPFDAFTDLKNGSLFAFRGQYCYELDEKAVRPGYPKLIRDVWGIEGPIDAAFTRINCQGKTYLFKGS
QYWRFEDGVLDPDYPRNISDGFDGIPDNVDAALALPAHSYSGRERVYFFKGKQYWEYQFQHQPSQEECEGSSLSA
VFEHFAMMQRDSWEDIFELLFWGRTSAGTRQPQFISRDWHGVPGQVDAAMAGRIYISGMAPRPSLAKKQRFRHRN
RKGYRSQRGHSRGRNQNSRRPSRAMWLSLFSSEESNLGANNYDDYRMDWLVPATCEPIQSVFFFSGDKYYRVNLR
TRRVDTVDPPYPRSIAQYWLGCPAPGHL

5165/6881 FIGURE 4765A

CGAGTGAAAAAACTGAGCCTCAGCCTGTCGCCTTCGCCCCAGACGGGAAAACCATCTATGAGAACTCCTCTCCGT GAACTTACCCTGCAGCCCGGTGCCCTCACCAACTCTGGAAAAAGATCCCCCGCTTGCTCCTCGCTGACCCCATCA CTGTGCAAGCTGGGGCTGCAGGAAGGCAGCAACAACTCATCTCCAGTGGATTTTGTAAATAACAAGAGGACAGAC TTATCTTCAGAACATTTCAGTCATTCCTCAAAGTGGCTAGAAACTTGTCAGCATGAATCAGATGAGCAGCCTCTA GATCCAATTCCCCAAATTAGCTCTACTCCTAAAACGTCTGAGGAAGCAGTAGACCCACTGGGCAATTATATGGTT AAAACCATCGTCCTTGTACCATCTCCACTGGGGCAGCAACAAGACATGATATTTGAGGCCCCGTTTAGATACCATG GCAGAGACAAACAGCATATCTTTAAATGGACCTTTGAGAACAGACGATCTGGTGAGAGAGGAGGTGGCACCCTGC ATGGGAGACAGGTTTTCAGAAGTTGCTGCTGTATCTGAGAAACCTATCTTTCAGGAATCTCCGTCCCATCTCTTA GAGGAGTCTCCACCAAATCCCTGTTCTGAACAACTACATTGCTCCAAGGAAAGCCTGAGCAGTAGAACTGAGGCT GTGCGTGAGGACTTAGTACCTTCTGAAAGTAACGCCTTCTTGCCTTCTCTGTTCTCTGGCTTTCCCCTTCAACT GCCTTGGCAGCAGATTTCCGTGTCAATCATGTGGACCCAGAGGAGGAAATTGTAGAGCATGGAGCTATGGAGGAA AGAGAAATGAGGTTTCCCACACATCCTAAGGAGTCTGAAACAGAAGATCAAGCACTTGTCTCAAGTGTGGAAGAT ATTCTGTCCACATGCCTGACACCAAATCTAGTAGAAATGGAATCCCAAGAAGCTCCAGGCCCAGCAGTAGAAGAT TCCGTCATGCTGGAAAATCTCCGCCAAAGCTTATCCCTTCCCTCGATGCTTCGGGATGCTGCAATTGGCACTACC CCTTTCTCTACTTGCTCGGTGGGGACTTGGTTTACTCCTTCAGCACCACAGGAAAAGAGTACAAACACATCCCAG GCCTTGTCTCGACATGACTTGGAAGATAACCTGCTGAGCTCTCTTGTCATTCTGGAGGTTCTCTCCCGCCAGCTT CGGGACTGGAAGAGCCAGCTGGCTGTCCCTCACCCAGAAACCCAGGACAGTAGCACACAGACTGACACATCTCAC AGTGGGATAACTAATAAACTTCAGCATCTTAAGGAGAGCCATGAGATGGGACAGGCCCTACAGCAGGCCAGAAAT GTCATGCAATCATGGGTGCTTATCTCTAAAGAGCTGATATCCTTGCTTCACCTATCCCTGTTGCATTTAGAAGAA GATAAGACTACTGTGAGTCAGGAGTCTCGGCGTGCAGAAACATTGGTCTGTTGCTGTTTTGATTTGCTGAAGAAA TTGAGGGCAAAGCTCCAGAGCCTCAAAGCAGAAAGGGAGGAGGCAAGGCACAGAGAGGAAATGGCTCTCAGAGGC CTAGCATCCATGCGGGAATTCAGAGGCCTTCTGAAGGATGCCCAGACCCAACTGGTAGGGCTTCATGCCAAGCAA GAAGAGCTGGTTCAGCAGACAGTGAGTCTTACTTCTACCTTGCAACAAGACTGGAGGTCCATGCAACTGGATTAT ACAACATGGACAGCTTTGCTGAGTCGGTCCCGACAACTCACAGAGAAACTCACAGTCAAGAGCCAGCAAGCCCTG CAGGAACGTGATGTGGCAATTGAGGAAAAGCAGGAGGTTTCTAGGGTGCTGGAACAAGTCTCTGCCCAGTTAGAG GAGTGCAAAGGCCAAACAGAACAACTGGAGTTGGAAAACAGTCGTCTAGCAACAGATCTCCGGGCTCAGTTGCAG ATTCTGGCCAACATGGACAGCCAGCTAAAAGAGCTACAGAGTCAGCATACCCATTGTGCCCAGGACCTGGCTATG CTAAAACACATGCAGGCAGAACTGCAGCAACAAGCTGTCCTGGCCAAAGAGGTGCGGGACCTGAAAGAGACC TTGGAGTTTGCAGACCAGGAGAATCAGGTTGCTCACCTGGAGCTGGGTCAGGTTGAGTGTCAATTGAAAACCACA CTGGAAGTGCTCCGGGAGCGCAGCTTGCAGTGTGAGAACCTCAAGGACACTGTAGAGAACCTAACGGCTAAACTG GCCAGCACCATAGCAGATAACCAGGAGCAAGATCTGGAGAAAACACGGCAGTACTCTCAAAAGCTAGGGCTGCTG ACTGAGCAACTACAGAGCCTGACTCTCTTTCTACAGACAAAACTAAAGGAGAAGACTGAACAAGAGACCCTTCTG CTGAGTACAGCCTGTCCTCCCACCCAGGAACACCCTCTGCCTAATGACAGGACCTTCCTGGGAAGCATCTTGACA GCATCAATGGTTTCCCTTCAGCCCGCAGAGACCCCAGGCATGGAGGAGACCTGGCAGAAATGAGTATTATGACT ACTGAGCTTCAGAGTCTTTGTTCCCTGCTACAAGAGTCTAAAGAAGAAGCCATCAGGACTCTGCAGCGAAAAATT TGTGAGCTGCAAGCTAGGCTGCAGGCCCAGGAAGAACAGCATCAGGAAGTCCAGAAGGCAAAAGAAGCAGACATA GAGAAGCTGAACCAGGCCTTGTGCTTGCGCTACAAGAATGAAAAGGAGCTCCAGGAAGTGATACAGCAGCAGAAT TCACTTCGGCGTGCGGAGACAGAGACCAAAGTGCTCCAGGAGGCCCTGGCAGGCCAGCTGGACTCCAACTGCCAG CCTATGGCCACCAATTGGATCCAGGAGAAAGTGTGGCTCTCTCAGGAGGTGGACAAACTGAGAGTGATGTTCCTG GAGATGAAAAATGAGAAGGAAAAACTCATGATCAAGTTCCAGAGCCATAGAAATATCCTAGAGGAGAACCTTCGG CGCTCTGACAAGGAGTTAGAAAAACTAGATGACATTGTTCAGCATATTTATAAGACCCTGCTCTCTATTCCAGAG

5166/6881 FIGURE 4765B

MWRVKKLSLSLSPSPQTGKPSMRTPLRELTLQPGALTNSGKRSPACSSLTPSLCKLGLQEGSNNSSPVDFVNNKR TDLSSEHFSHSSKWLETCQHESDEQPLDPIPOISSTPKTSEEAVDPLGNYMVKTIVLVPSPLGOOODMIFEARLD TMAETNSISLNGPLRTDDLVREEVAPCMGDRFSEVAAVSEKPIFQESPSHLLEESPPNPCSEQLHCSKESLSSRT EAVREDLVPSESNAFLPSSVLWLSPSTALAADFRVNHVDPEEEIVEHGAMEEREMRFPTHPKESETEDOALVSSV EDILSTCLTPNLVEMESQEAPGPAVEDVGRILGSDTESWMSPLAWLEKGVNTSVMLENLRQSLSLPSMLRDAAIG TTPFSTCSVGTWFTPSAPQEKSTNTSQTGLVGTKHSTSETEOLLCGRPPDLTALSRHDLEDNLLSSLVILEVLSR QLRDWKSQLAVPHPETQDSSTQTDTSHSGITNKLQHLKESHEMGQALQQARNVMQSWVLISKELISLLHLSLLHL EEDKTTVSQESRRAETLVCCCFDLLKKLRAKLQSLKAEREEARHREEMALRGKDAAEIVLEAFCAHASQRISQLE QDLASMREFRGLLKDAQTQLVGLHAKQEELVQQTVSLTSTLQQDWRSMQLDYTTWTALLSRSRQLTEKLTVKSQQ ALQERDVAIEEKQEVSRVLEQVSAQLEECKGQTEQLELENSRLATDLRAQLQILANMDSQLKELQSQHTHCAQDL AMKDELLCQLTQSNEEQAAQWQKEEMALKHMQAELQQQQAVLAKEVRDLKETLEFADQENQVAHLELGQVECQLK TTLEVLRERSLQCENLKDTVENLTAKLASTIADNQEQDLEKTRQYSQKLGLLTEQLQSLTLFLQTKLKEKTEQET LLLSTACPPTQEHPLPNDRTFLGSILTAVADEEPESTPVPLLGSDKSAFTRVASMVSLQPAETPGMEESLAEMSI MTTELQSLCSLLQESKEEAIRTLQRKICELQARLQAQEEQHQEVQKAKEADIEKLNQALCLRYKNEKELQEVIQO QNEKILEQIDKSGELISLREEVTHLTRSLRRAETETKVLQEALAGQLDSNCQPMATNWIQEKVWLSQEVDKLRVM FLEMKNEKEKLMIKFQSHRNILEENLRRSDKELEKLDDIVQHIYKTLLSIPEVVRGCKELQGLLEFLS

CCTTTGCCTTTGAGGCTCTGTGGCTGTGGGCTGAGTGGCATCATGGCGGCTCAGAAAGATCTCTGGGACGCCAT TGTGATTGGGGCGGGGATCCAGGGCTGCTTCACTGCATACCACCTGGCCAAACACAGGAAGAGGATCCTCCTGCT GGAGCAGTTCTTTCTACCACACTCCCGAGGAAGCTCCCATGGACAAAGCCGGATAATCCGAAAGGCGTACCTGGA AGACTTTTACACCCGGATGATGCATGAGTGCTATCAGATATGGGCCCAGCTGGAGCACGAGGCTGGAACCCAATT GCACAGGCAGACTGGATTACTGCTGCTGGGAATGAAAGAGAATCAAGAATTAAAGACAATCCAGGCCAATCTGTC GAGGCAGAGGGTAGAACACCAGTGTCTTTCATCTGAGGAACTGAAGCAACGTTTCCCAAATATTCGGTTGCCCAG GGGAGAAGTGGGCTCTTGGACAATTCCGGAGGAGTTATCTATGCATATAAGGCCCTCAGAGCCCTGCAGGATGC AATTCGACAGCTAGGAGGCATAGTGCGTGACGGAGAAGGTGGTGGAGATAAACCCAGGGCTACTGGTCACGGT TCCCCTGGGCATTGAGATGCCTCTCCAGACCCTGCGGATCAACGTGTGTTACTGGCGAGAGATGGTTCCTGGGAG CTATGGTGTGTCCCAGGCCTTTCCGTGCTTCCTGTGGCTGGGCTTGTGTCCCCACCACATCTACGGACTGCCCAC AGGAGAGTACCCAGGGCTGATGAAGGTCAGCTATCACCACGGCAACCACGCAGACCCTGAGGAGCGGGACTGCCC CACAGCACGCACAGACATCGGAGACGTCCAGATCCTGAGCAGCTTTGTCAGAGATCACTTACCTGATCTGAAGCC CGAGCCTGCTGTCATTGAGAGCTGCATGTACACGAATACCCCTGATGAGCAGTTCATTCTCGATCGCCACCCAAA GTATGACAACATTGTCATTGGTGCTGGATTCTCTGGGCACGGGTTCAAGCTGGCCCCTGTGGTGGGGAAGATCCT GTATGAATTAAGCATGAAATTAACACCATCTTATGACTTGGCACCTTTTCGAATCAGCCGTTTCCCAAGCCTGGG CAAAGCCCACCTTTGACCTCTGGCCAGAAGCCTCCCTTCTGTGCACAGGAGCCAGTTTCACAGATGGAGAAGATG TCTCAGATGAAGGGAGTGTCCCTGAGATATCATCCTTTTCTTCTGCCTCGCCTGAATCCCCCATAAACACCAGAT GATTGAGTCTACCTTCTTTCCTTGGCCCGCTCCCTTTTTCTTCTGCCTCACTTGAATCCCCCGTAAACACCAGAC GATTGAGTCTACCTTCTTTTCTTGGCCACCTCCCCATTCACAACTACTTTCTCGCTCCCAGAAGGTTGATCAGAT ATTCTACAATCACAGAGTAGCAAGGACGTTTGAGATGGGTATATCAGTAAGAAGAGGGCACAAGAACTGGCTCTG GAGACCAAAGCAGTTGTTAAAAATTCTCTTTGCTGGGGGCCGGGTGTGGTGGCTCACACCTGTAATCTCGGCACT TTGGGGGGCTGAGACAGGCGGATCACCTGAGGCCAGGAATTCAAGACCAGCCTGGCCAACATGGTGAAACCCTAT CTCCACTAAAAATACAAAATTAGCTGGGTGTGGTGGCGCATGCCTGTAATCCCAGCTACTTGGGAGACTGAGGCA AGAGAATCACTTGAACCCGGGAGGTGGAGGTGGCAGTGAGCCGAGATTGCGCCATTGCACCTCCAGCCTGGGCAAA TGGATTTGACTAAATCTGCCCCGAGGAGGGTGAACAAGGTGATCTCAGAGATCACTACTGCTCTTGGAGTTCCTT GTTGAACAAATAAATAACTGCCCTGC

TCAGTGAAGGAGTCTTCAAGTGCCCTGAGGACCAGCTTCCTCTGGACTATGCCAAGATCTACCCAGACCCGGAGC TGGAAGTACAAGTATTGGGCCTGCCTATCCGCTGCATCCACAGTGAGGAGGGCTGCCGCTGGAGTGGGCCACTAC GTCATCTACAGGGCCACCTGAATACCTGCAGCTTCAATGTCATTCCCTGCCCTAATCGCTGCCCCATGAAGCTGA GCCGCCGTGATCTACCTGCACACTTGCAGCATGACTGCCCCAAGCGGCGCCTCAAGTGCGAGTTTTGTGGCTGTG ACTTCAGTGGGGAGGCCTATGAGAGCCATGAGGGTATGTGCCCCCAGGAGAGTGTCTACTGTGAGAATAAGTGTG GTGCCCGCATGATGCGGCGGCTGCTGGCCCAGCATGCCACCTCTGAGTGCCCCAAGCGCACTCAGCCCTGCACCT ${\tt CCAACCAATGTGGTGTGGGCACTGTGGGAGGACCTGCCAGGCCATCTGAAGGACAGCTGTAACACCGCCC}$ TGGTGCTCTGCCCATTCAAAGACTCCGGCTGCAAGCACAGGTGCCCTAAGCTGGCAATGGCACGGCATGTGGAGG AGAGTGTGAAGCCACATCTGGCCATGATGTGTGCCCTGGTGAGCCGGCAACGGCAGGAGCTGCAGGAGCTTCGGC GAGAGCTGGAGGAGCTATCAGTGGGCAGTGATGGCGTGCTCATCTGGAAGATTGGCAGCTATGGACGGCGGCTAC AGGAGGCCAAGCCCAACCTTGAGTGCTTCAGCCCAGCCTTCTACACACATAAGTATGGTTACAAGCTGC AGGTGTCTGCATTCCTCAATGGCAATGGCAGTGGTGAGGGCACACCTCTCACTGTACATTCGTGTGCTGCCTG GTGCCTTTGACAATCTCCTTGAGTGGCCCTTTGCCCGCCGTGTCACCTTCTCCCTGCTGGATCAGAGCGACCCTG GGCTGGCTAAACCACAGCACGTCACTGAGACCTTCCACCCCGACCCAAACTGGAAGAATTTCCAGAAGCCAGGCA $\tt CGTGGCGGGGCTCCCTGGATGAGATTCTCTGGGCTTTGGTTATCCCAAGTTCATCTCCCACCAGGACATTCGAA$ AGCGAAACTATGTGCGGGATGATGCAGTCTTCATCCGTGCTGCTGTTGAACTGCCCCGGAAGATCCTCAGCTGAG $\tt CGGACCCCGTCAGCTTCTGCTGCCTAGGTTCTGTTACCCCATCCTCCCCCCAGCCACCCTCAGGT$ GCCTCCAATTGGTGCTTCAGCCCTGGGCCCCTGTGGGGAACAGGTCTTGGGGTCATGAAGGGCTGGAAACAAGTGA CCCCAGGGCCTGTCTCCCTTCTTGGGTAGGGCAGACATGCCTTGGTGCCGGTCACACTCTACACGGACTGAGGTG

MPGFDYKFLEKPKRRLLCPLCGKPMREPVQVSTCGHRFCDTCLQEFLSEGVFKCPEDQLPLDYAKIYPDPELEVQ VLGLPIRCIHSEEGCRWSGPLRHLQGHLNTCSFNVIPCPNRCPMKLSRRDLPAHLQHDCPKRRLKCEFCGCDFSG EAYESHEGMCPQESVYCENKCGARMMRRLLAQHATSECPKRTQPCTYCXLXXSSSLTPSRATSTSAQGCLLPAPT NVVWALWLGRTCQAI

GAGACTCGCCCGGCTCAACCCCGACGTCCGCGCCCGGCCTGTTGGCCATCGCGGCCTGGGCCTGGGCTCC CTGCCCTGCGGCCACAGCTTCTGCCGCCACTGCCTGGAGGCCCTGTGGGGCGCCCGCGACGCCGCCGCCGCTGGGCC TGCCCCACTTGCCGCCAGGGCGCCGCAGCCGCACCTGCGGAAGAACACGCTACTGCAGGACCTGGCCGAC AAGTACCGCCGCGCCCCACGCGAGATACAGGCGGGCTCCGACCCTGCCCACTGCCCCTGCCCGGGCTCCAGTTCC CTCTCCAGCGCGCCGCGAGGCCCCGGCGCCCCGGAACTGCAGCGGGTGGCAGTAGAGAAGAGCATCACAGAA GTTGCTCAGGAGCTGACAGAGCTGGTGGAACATCTTGTAGACATTGTCAGAAGCCTGCAGAATCAGAGGCCCCTA TCAGAATCTGGACCAGACGAACTGAGCATCCTGGGCAAGGAGACTCCTGGAAGCCCCGTCTTCCTCCTCAT TTAACT<u>TGA</u>AGAGCCTTTCCTGCAGCCTGGAGGTGTCCAAGGATTCCCGTACAGTGACTGTGTCTCACCGCCCAC ATTACTGGGAAGTGGACACTAGGAATTGCAGCCACTGGGCAGTTGGGGTGGCTTCCTGGGAGATGAGCCGCGACC AGGTCCTGGGAAGGACTATGGACTCTTGTTGTGTGGAATGGAAGGGGACTAGCCAGCTCTCTGCATGGCACATGG TCAAGGAAACTGTCCTTGGCTCAGACAGACCTGGGGTGGTGGGCATCTGGCTGAACCTTGAGGAGGGAAAGCTTG CCTTCTATTCAGTGGACAATCAGGAGAAGCTTCTGTATGAGTGTACCATCTCTGCCTCCTCTCTTTGTACCCTG CCTTCTGGCTGTATGGCTTACATCCTGGAAATTACCTGATAATAAAGCAAGTAAAGGTGTAAGGTTTCCTAAGGG TTTAGAAAAATTACGATAGAGATGGGATCTCACTAGGTTGCCCAGGCTGGTGTCGAATTCCTGGTCTCAAGCAGT CCTCCCACCTCAGCCTCCCAAGGTGCTGGGATTACAGGTGTGAGCCACCACCACCTGGCCAAGAATACCACTTTTG AAGTTAATCCTTTTGTGTGATACAGGATGAACTTGGGATGTTTGAACCCTGGACATTCCAAATAAAGAATAGGCC CCTGCCTGGCTCCTGGGAGATAACCTCTAAGCCATTAGAATATCTTGCCTGATAAGAGTGTTTTTGTTTACCTGT GGGCCTTGGGCCATGCAGTATCAGCTTGACCTTGCAAGGTCAAGCTGAGGAGACTAAGTTAGCCATGTGGGCAGT TACTCTGTGCACACATCATTGTAGCCACACATCATTGCTGGGAGAATTAAGCATTATCCTGAAGACTCTGCCAGG AGAGGATAATTGGAAGTTCTCTTGGACCTTACCTTATGTGCCTTTCTTCATTGCTGATTTTAATCTGTATCCTTT

MAGLGLGSAVPVWLAEDDLGCIICQGLLDWPATLPCGHSFCRHCLEALWGARDARRWACPTCRQGAAQQPHLRKN TLLQDLADKYRRAAREIQAGSDPAHCPCPGSSSLSSAAARPRRPELQRVAVEKSITEVAQELTELVEHLVDIVR SLQNQRPLSESGPDNELSILGKENSWKPRLPPHAHCLTRATLHSGELLGLLSGPSIQPLT

5174/6881 FIGURE 4773A

AGGTGGAAAAACTTGTGAAATATTTGGATCCCAACGACCTGGGGAGAATCAACTTCAAGGACTTTTGCCGGGGGG CGCCAGAGATCCCAGACTGCGTGGAGCAGGGCAGCGAGGTCACAGGCCCCACCTTTGCTGATGGCGAGCTCATCC $\verb|CCAGGGAACCCGGCTTTTTCCCGAGGACGAGGAGGAGGCTATGACGCTGGCGCCACCTGAGGGCCCCCAGGAGT|\\$ TGTACACAGACAGCCCCATGGAGAGCACTCAGAGCCTGGAGGGGTCTGTCGGGAGTCCTGCCGAGAAGGACGGG CACACTCCACCACCTCGCTCATCAGCAATGAGGAGCAGTTTGAAGACTATGGGGAGGGTGACGATGTGGACTGTG $\verb|CCCCAGCAGCCCTTGCCCCGATGATGAGACCAGGACCAACGTCTACTCGGACCTGGGGTCTTCGGTGTCTTCCA||$ GTGCGGGGCAGACGCCTAGGAAAATGCGGCACGTGTACAACAGCGAATTGCTAGATGTTTACTGCTCTCAATGCT GCAAGAAAATCAACCTGCTCAATGACTTGGAAGCCCGACTGAAAAACCTGAAGGCCCAACAGCCCCAACCGAAAGA TCTCCAGCACGGCCTTTGGACGGCAGCTCATGCACAGCAGCAACTTCAGCAGCAGCAATGGCAGCACCGAAGACC TGTTCCGGGACAGCATTGACTCTTGCGACAATGACATCACAGAGAAGGTAAGCTTCCTGGAAAAGAAGGTGACAG AGCTGGAGAATGACAGCCTGACCAATGGGGACCTGAAGAGCAAGCTGAAGCAAGAACACACAGCTGGTGCACA GGGTGCATGAGCTGGAGGAGGATGGTGAAGGATCAGGAGACCACGGCCGAGCAGGCTCTGGAGGAGGAGGCGCGGC GCCACCGCGAGGCCTACGGCAAGCTGGAGAGGGAGAAGGCTACCGAGGTGGAGCTGCTCAATGCCAGGGTGCAGC AGTTGGAGGAAGAAATACAGAGCTTAGAACAACAGTGACTCGGCTCAAGTCTCAAACAGAGAAACTGGATGAGG AGCGGCAGCGCATGTCTGACCGTCTGGAGGACACCAGCCTGCGGCTCAAAGATGAGATGGACCTGTACAAGCGCA TGATGGACAAGCTGCGACAGAACCGCCTTGAGTTCCAGAAGGAGCGGGAGGCGACGCAGGAGCTCATCGAGGACT CTGGCCTAGGCGAGTTCAATGCCAGGGCCCGCGAGGTGGAGCTCGAGCACGAGGTCAAGCGGCTCAAGCAGGAGA ATTATAAGCTGCGGGATCAGAACGACGACTTGAATGGGCAGATTTTGAGCCTCAGCCTCTACGAAGCAAAAAACC TCTTTGCTGCCCAGACTAAAGCCCAGTCTCTGGCTGCGGAGATAGACACCGCCTCGCGCGATGAGCTAATGGAAG CCCTGAAGGAGCAGGAGGATCAACTTCCGGCTGAGGCAGTACATGGACAAGATTATCCTCGCCATCCTGGACC ACAATCCCTCCATCCTCGAGATCAAACAC<u>TAA</u>GGCACGGGGCTGGCTGCAGAGCAGCCTTAGGACCCTGGGACCA AGGGCAGACCCTGCCCAAGGATGCAGGCCTAAGCCGGGCCTCACACTCACACTGTAAATGTCTCTCTGGCCACCA GCATCCACACGGTTAGCCGTGCATGCACTTTGTGGCCCCTTTGCAAGGGGCAGAGGGTACTGGAAGTGGGAGGAG GCAAGGTCTGCTATCAGGAGTTACTGTAAAAACAAGAACTGGAAGCTCGTGTTTCCGGTACTGGGTAAAATGATT CTACCTCTGGGGATAAGGATTCACATTCGCTCTAGTACGATGGGCTCTTTCACCCCACTCCTAGTCCCCTTGGGA GTGGGAGCAAAATTGTGATCTTTCCTAGGAGTTTGAATGCCCCATATTTGTGTCCTCGCCAGCTCTTTGGCCACC TTTCAAGCCCCAGTGTTCAAGCTCAGAGAGGATGAAGGGGCCATCTGGAGGGTCCATGAGATGGGGCCCTCACCAA TGTTTCAGTTTTAAGACAATGAAGCAGCATTCACTGCGTCATTGTAACATGAAGGGATAAAAATGAAGGAGAAGG AGGGTTTGGGATGGGTGTCTAAGGCAGGAGTTGACATCGGGCAACCAAAGAAATGAGTTTTGGGGAGGAACACAA CTGTCTTCATTCTCCACGCAGCCTGGTGATGGCAGGCCTGGGTTTGGATTTCAGAATCCTAGCTCCGGGCTCCAC TCGTGTGGCAGCAAGACTGCTTCCATCCAGCGTTTAGAAACACACCTGTATTTGATTCTCAGCCAGGGGAGCACT CGCTGCACTGGTGGGAGGCGGTTGGGAAAGTTGCAGGAAAACCTTAGTCTTCCATCCTTCTGACCCATGGTGGAA ATTCACACCATGGATTTTTAATGGATCTTTGTTCTAGGCAGCTGGGAATAGACATGGTACTTACCTTAGAGTTTT GGCGGTGGAGGGGGAGTTGCAGAAAGAGAGGGCAGTGAGGGTGAGGAGAGGGGATCTGGGGACTTGGGTGTGACA CCTGCTTGACAGAGGCAGGCCTGTGGCCAGGACCAACCTTCAATTCCAATCCAGCCTTTGCATTTGTTGGA TCTCGTGGCTTCTTTTTAATCTTTTGTTGGGGATTAGTTTCATGCTGCACATAATGGGGTTGCACTGGTCTGACC CAGGACTTTGGAGCCACCCCACACTGGGAAGACTAGGCTAGGCAGTCGGTCTTCTAGGAGTTTCTCAGCCCCTTAG GACGCGGTCTCCTTGGGCTCCCCAAGGGTTCTGCGAAGAGGCAGTGGAAGAAGGCATGAGGAGAGGGTCTCTT GAGAATTTGCCAATAGGAAGGAGTGGCCACGGCTGAAAGGAACAAGACAGATCCTGACATAGCTTTGGCCTGGGT